

**BACHELOR OF COMPUTER  
APPLICATIONS**

**Term-End Examination**

**June, 2014**

02040

**BCS-061 : TCP / IP PROGRAMMING**

*Time : 2 hours*

*Maximum Marks : 60*

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

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1. (a) What is the significance of the "Time to Live" value in an IP header ? 4
  - (b) Consider a subnet mask 255.255.240.0 is assigned to an address of class B. How many hosts are possible per subnet and how many subnets are possible ? 4
  - (c) Compare connection-oriented and connection-less services using example(s) of each. 4
  - (d) What is SNMP ? Explain its importance in TCP/IP protocol stack. 4
  - (e) Close ( ) and shut down ( ) functions are used to close a socket. With the help of examples, show how these function calls differ. 4
  - (f) Explain the concept of recursive and iterative resolution in DNS. 5
  - (g) What is byte ordering ? Explain the functions used by byte order conversion. 5

2. (a) What is the maximum capacity of datagram that can be carried by Internet Protocol (IP) ? Also, explain how IP datagram are deleted from the network. 5
- (b) What is the full-form of HTTP ? Explain the data transfer methods used by HTTP. 5
3. (a) Explain the count-to-infinity problem related to distance vector routing with the help of a suitable example. 5
- (b) What is meant by a socket ? Write the differences between active and passive sockets. 5
4. Write an algorithm each for UDP client and UDP server with the following specifications : 10
- UDCP Client will start the communication, and send a string of characters to the server.
  - UDP server will accept the string (upto 10 characters only) and as a reply it will send the reverse of the string to the respective client.
- Note : Make assumptions, if any.
5. Explain the significance of following header fields of TCP and IP. 10
- (a) Type of Service
  - (b) Sequence Number
  - (c) HLEN
  - (d) Header Checksum
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