

01817

BCA

Term-End Examination

December, 2013

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) What is a purpose of "Type of Service" field used in the header of IP datagram ? Also, explain the maximum number of hops that a datagram can remain in, in the network before it is discarded. 5
- (b) For what purpose function "getservbyname()" is used in context of socket programming. Also, explain it's syntax and different parameter taken by it. 5
- (c) Describe any two mechanisms used by TCP for flow control. 5
- (d) What is HTTP ? Explain any four methods used by HTTP for data transfer. 5
- (e) Differentiate between POP and IMAP protocols. 5
- (f) Explain the similarities and differences between ARP and RARP. 5
- (g) Discuss the cloud computing model. 5
- (h) What is Virtual Network Computing (VPN) ? Compare VPN with FreeNX. 5

2. (a) What kinds of segments are used in connection establishment and termination using 3-way handshaking in TCP ? Explain through a suitable diagram. 10
- (b) What are the various IP address classes ? How many bits are used to represent the network ID and host ID part of these classes. 10
3. Write an algorithm each for TCP client and server with the following specification. 20
- TCP Server can handle maximum 5 clients at a time.
 - TCP client will initiate the communication and send any alphanumeric character randomly to the server.
 - TCP server accepts the character and as a reply it sends the ASCII value of that character to the respective client.

Note : Make suitable assumptions, if any.

4. (a) Explain the count-to-infinity problem related to distance vector routing with the help of an example. 5
- (b) Write the syntax along with parameters used by **listen()** and **accept()** system call. 5
- (c) What is DHCP ? Explain the working of DHCP with the activities performed between DHCP Server and DHCP Client. 10
5. Differentiate between the following : 20
- (a) TCP/IP and OSI Model
 - (b) IPv4 and IPv6
 - (c) Primary name server and Secondary name server
 - (d) FAT16 and FAT32
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