

BCA

Term-End Examination

June, 2014

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 the maximum capacity of datagram can be carried by Internet protocol ? Also, explain, how IP datagram are deleted from the network. 5
- (b) The following is the TCP header in hexadecimal format : 10
- 04321017 01231311 00000234
- 62324216 00134217
- (i) What is the destination port number ?
- (ii) What is the sequence number ?
- (iii) What is the source port number ?
- (iv) What is the length of TCP header ?
- (v) What is the acknowledgement number ?

- (c) What is ICMP ? Explain the network informations it carries. 5
- (d) Which field of IP header is used for Congestion Control and how ? 5
- (e) Why and how broadcasting is used in ARP ? 5
- (f) Write any five disk management functions. 5
- (g) How the "Disc User" is checked in Linux ? Explain with an example. 5
2. (a) "Internet protocol is an unreliable, best effort, connection - less protocol". Explain the meaning of the above statement. 3
- (b) What are the data types defined by socket interface ? Also, explain the purpose of any four. 7
- (c) What is meant by byte - ordering ? For what purpose following socket calls are used ? Explain using an example for each. 10
- (i) htons () (ii) htonl ()
- (iii) ntohs () (iv) ntohl ()
3. Write an algorithm for TCP client and server each using the following specifications : 20
- (a) Client program initiate the communication. After authentication from the server, it sends a range of numbers (e.g. 10 to 100) to the server.
- (b) TCP server, which can handle maximum 4 clients, accept the range of numbers from the client. As a reply it send a list of prime numbers (if any) to the respective client.
- Note :** Make suitable assumptions, if any.

4. (a) Compare and contrast between TCP/IP and OSI model. Also, draw the layer diagram for each model. 10
- (b) Write the step by step procedure to configure a Samba Server. Assume server IP address is 192.162.0.252 and server machine name is "IGNOU". 10

Note : Make suitable assumption for clients IP and name .

5. Differentiate between the following : 20
- (a) Gateways and Bridges
- (b) TCP and UDP
- (c) Authentication and Authorization
- (d) SOCK_STREAM () and
SOCK_DGRAM ()
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