12/10/2022

USN : _____ Course Code : 18CS72

Seventh Semester B.E. FASTTRACK Examination, October 2022

NETWORK PROGRAMMING

Time: 3 hrs Max. Marks :100

Instructions :1. Answer any FIVE full Questions selecting at least ONE Question from Each Unit.

MODULE 1

	L	CO	PO	M
1a. Explain the process of TCP Connection Establishment and Termination.	[1]	[1]	[1]	[10]
1b. With a neat flow chart, explain the steps involved in building an Echo Client-Server application using TCP.	[2]	[1]	[3]	[10]

OR

2a. Write a program to implement TCP daytime client	[2]	[1]	[3]	[10]
2b. What do you understand by the term Network Programming? What are the high-level decisions to be made before you design the details of a protocol? With a neat diagram, explain how the communication takes place between a client and a server over LAN.	[2]	[1]	[1]	[10]

MODULE 2

3a. What are Concurrent Servers? Explain how does Concurrent Servers handle multiple clients at the same time	[2]	[2]	[1]	[10]
3b. Defend the use of htons/htonl and inet_pton functions in network programming. Write a sample program to demonstrate the use of above functions.	[3]	[2]	[3]	[10]

OR

4a. What are Socket Functions? With neat figure explain Socket functions for elementary TCP client/Server	[2]	[2]	[1]	[10]
4b. Demonstrate with appropriate code, the application of fork( ) and exec( ) APIs in Concurrent Server implementation.	[3]	[2]	[3]	[10]

MODULE 3

5a. Construct a suitable sequence diagram to indicate the functioning of 4-way handshake for the establishment of an association in SCTP protocol?	[3]	[2]	[3]	[10]
5b. Explain briefly about the different Interface models that are used in SCTP protocol.	[2]	[1]	[3]	[10]

OR

6a. What is syslog function? Explain its relationship with syslogd daemon. Indicate with code snippet, how to call the syslog function	[3]	[2]	[3]	[10]
6b. Differentiate between Unconnected and Connected UDP sockets. Identify the resulting changes with a connected UDP socket compared to default connected UDP socket?	[2]	[1]	[3]	[10]

MODULE 4

7a. Summarize the steps that allow an IPv4 TCP client to communicate with IPv6 server using dual stack.	[2]	[1]	[3]	[10]
7b. Explain IPv6 Address-Testing Macros	[2]	[1]	[3]	[10]

OR

8a. Discuss how source code portability from IPv4 applications could be converted to use IPv6

[1] [1] [3] [10]

8b. Illustrate the steps that allow an IPv6 TCP client to communicate with IPv4 server using dual stack.

[2] [1] [3] [10]

MODULE 5

9a. Demonstrate with code, the use of dg_cli function that broadcasts

[3] [3] [3] [10]

9b. Explain the Scope of Multicast addresses, along with IPV4 AND IPV6 multicast addresses.

[2] [3] [1] [10]

OR

10a. Justify how beneficial is Multicasting on a WAN network

[3] [3] [3] [10]

10b. Explain the Unicast example of a UDP datagram

[2] [3] [1] [10]