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|  | **Lab Assignment on Unit I: (Mandatory Assignment)**  **Part A:** Setup a wired LAN using Layer 2 Switch and then IP switch of minimum four computers. It includes preparation of cable, testing of cable using line tester, configuration machine using IP addresses, testing using PING utility and demonstrate the PING packets captured traces using Wireshark Packet Analyzer Tool. |
|  | **Lab Assignment on Unit II: (Use C/C++)**  Write a program for error detection and correction for 7/8 bits ASCII codes using Hamming Codes or CRC. Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode. |
|  | **Lab Assignment on Unit IV: (Use JAVA/PYTHON)**  Write a program to simulate the behaviour of link state routing protocol to find suitable path for transmission. |
|  | **Lab Assignment on Unit V: (Mandatory Assignment) (Use C/C++)**  Write a program using TCP socket for wired network for following  a. Say Hello to Each other ( For all students)  b. File transfer ( For all students)  Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode. |
|  | **Lab Assignment on Unit V: (Mandatory Assignment) (Use C/C++)**  Write a program using TCP socket for wired network for following  a. Say Hello to Each other ( For all students)  b Calculator (Arithmetic/Trigonometry)  Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode. |
|  | **Lab Assignment on Unit IV: (Use JAVA/PYTHON)**  Write a program to demonstrate subnetting and find the subnet masks. |
|  | **Lab Assignment on Unit V: (Mandatory Assignment) (Use C/C++)**  Write a program using UDP Sockets to enable file transfer (Script, Text, Audio and Video one file each) between two machines. Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode. |
|  | **Lab Assignment on Unit V: (Mandatory Assignment) (Use C/C++)**  Write a program to analyze following packet formats captured through Wireshark for wired network. 1. Ethernet 2. IP 3.TCP 4. UDP |
|  | **Lab Assignment on Unit VI: (Use JAVA/PYTHON)**  Write a program for DNS lookup. Given an IP address input, it should return URL and vice-versa. |
|  | **Lab Assignment on Unit V: (Use JAVA/PYTHON)**  Write a program using TCP sockets for wired network to implement  a. Peer to Peer Chat  Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode |
|  | **Lab Assignment on Unit V: (Use JAVA/PYTHON)**  Write a program using TCP sockets for wired network to implement  a. Multiuser Chat  Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode |
|  | **Lab Assignment on Unit V: (Use JAVA/PYTHON)**  Write a program using UDP sockets for wired network to implement  a. Peer to Peer Chat  Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to mode. |
|  | **Lab Assignment on Unit V: (Use JAVA/PYTHON)**  Write a program using UDP sockets for wired network to implement  a. Multiuser Chat  Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to mode. |
|  | **Lab Assignment on Unit IV and Unit V: (Mandatory Assignment)**  Use network simulator NS2 to implement:  a. Monitoring traffic for the given topology |
|  | **Lab Assignment on Unit IV and Unit V: (Mandatory Assignment)**  Use network simulator NS2 to implement:  a. Analysis of CSMA and Ethernet protocols |
|  | **Lab Assignment on Unit IV and Unit V: (Mandatory Assignment)**  Use network simulator NS2 to implement:  a. Network Routing: Shortest path routing, AODV. |
|  | **Lab Assignment on Unit IV and Unit V: (Mandatory Assignment)**  Use network simulator NS2 to implement:  a. Analysis of congestion control (TCP and UDP). |
|  | **Lab Assignment on Unit IV: (Mandatory Assignment)**  Configure RIP/OSPF/BGP using packet Tracer. |
|  | **Lab Assignment on Unit II: (Use C/C++)**  Write a program for error detection and correction for 7/8 bits ASCII codes using Hamming Codes or CRC. Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode. |
|  | **Lab Assignment on Unit V: (Mandatory Assignment) (Use C/C++)**  Write a program using TCP socket for wired network for following  a. Say Hello to Each other ( For all students)  b Calculator (Arithmetic/Trigonometry)  Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode. |