1. Share a folder from a PC Connected to LAN
2. Compare Straight & cross cable
3. Applications & Specifications of UTP Cat-5 cable
4. Difference between switch & Hub
5. Discuss PICT LAN Structure
6. Explain & Compare network topologies.
7. Find details of the NIC from your system.
8. Execute network commands that suits following description
9. To check hostname of the system - **hostname**
10. To obtain IP address of the adapter - **ipconfig**
11. To obtain details of the adapter in the system – **ipconfig/all**
12. To check the connectivity between two interfaces – **ping “url”**
13. To find route details from your system to another system – **tracert “url”**
14. To get the statistics on the data delivery along a route - **pathping**
15. To check ARP cache of the system – **arp -a**
16. To check active connections on your system **netstat**
17. Use protocol analyzer to capture and analyze ARP packets
18. Draw ARP packet format & mark the fields on the captured data. **(in Notes)**
19. Explain ARP operation with the help of request and reply

**https://www.geeksforgeeks.org/how-address-resolution-protocol-arp-works/**

1. Display flow graph of the communication between two hosts

**https://www.geeksforgeeks.org/packet-flow-in-different-network/**

1. Capture & analyze PING & TRACERT packets using wire shark.
2. Explain the use of capture filter.

**Wireshark supports limiting the packet capture to packets that match a capture filter. Wireshark capture filters are written in libpcap filter language.**

1. Explain the use of display filter.

**Display filters are used for filtering which packets are displayed . Display filters allow you to concentrate on the packets you are interested in while hiding the currently uninteresting ones.**

1. Explain ICMP Operation

**https://www.geeksforgeeks.org/internet-control-message-protocol-icmp/**

1. What are the types of ICMP error reporting messages?

**https://www.geeksforgeeks.org/types-of-icmp-internet-control-message-protocol-messages/p**

1. Capture TCP stream using wire shark after executing FTP/HTTP/Telnet.
2. Explain the concept of TCP stream

**https://www.geeksforgeeks.org/what-is-transmission-control-protocol-tcp/**

1. Draw TCP header & explain the field

[**https://www.geeksforgeeks.org/services-and-segment-structure-in-tcp/**](https://www.geeksforgeeks.org/services-and-segment-structure-in-tcp/)

1. Explain TCP handshaking with help of diagram.

**https://www.geeksforgeeks.org/tcp-3-way-handshake-process/**

1. Configure FTP server & show communication between client & server
2. What are the active & passive FTP Sessions?

**https://www.geeksforgeeks.org/difference-between-active-and-passive-ftp/**

1. Give classification of logical ports.

**https://community.fs.com/blog/server-ports-basics-you-must-know.html**

1. What are the applications of FTP

**https://www.elprocus.com/file-transfer-protocol/**

1. Install & configure a Web server. Demonstrate communication between web client & server.
2. What is HTTP & WWW.

**https://www.geeksforgeeks.org/http-full-form/**

**https://www.geeksforgeeks.org/world-wide-web-www/**

1. What is the significance of index.html

**https://careerkarma.com/blog/how-to-use-index-dot-html/**

1. State port numbers for HTTP & HTTPS - **80 for HTTP and 443 for HTTPS**.
2. Install & configure Telnet server.Excecute commands to show remote logging
3. Capture Telnet traffic in wireshark & show the captured login details. Comment on security of the Telnet protocol.
4. Install & Configure DHCP Server
5. Explain four steps DHCP operation

**https://www.geeksforgeeks.org/how-dora-works/**

1. Explain why clients/server use broadcast packets for the communication

**https://www.geeksforgeeks.org/client-server-model/**

1. Discuss about DHCP relay agent

**https://www.geeksforgeeks.org/dhcp-relay-agent-in-computer-network/**

1. Discuss DHCP lease process. show current status of DHCP lease on your system

[**https://www.geeksforgeeks.org/dynamic-host-configuration-protocol-dhcp/**](https://www.geeksforgeeks.org/dynamic-host-configuration-protocol-dhcp/)

ipconfig/all --🡪 Lease obtained and Lease left….

1. Create a network topology using packet tracer (with 2 PCS, 2 Switch,3 Routers) configure devices routes & explain PING from 1 PC to other PC through routers.