

Computer Networks Lab

Course Objectives:

- To understand the working principle of various communication protocols.
- To analyze the various routing algorithms.
- To know the concept of data transfer between nodes

Detailed Contents:

Week-1

1. Study of different types of Network cables and Practically implement the cross-wired cable and straight through cable using clamping tool.
2. Study of Network Devices in Detail.

Week-2

3. Study of network IP.
4. Connect the computers in Local Area Network.

Week-3

5. Study of basic network command and Network configuration commands.
6. Socket Program for Echo/Talk commands.

Week-4

7. Configure a Network topology using packet tracer software.

Week-5

8. Configure Network using Link State Vector Routing protocol.
9. Configure a Network using Distance Vector Routing protocol.

Week-6

10. Write a program to implement RPC (Remote Procedure Call)
11. Write a code simulating PING and TRACEROUTE commands.

Week-7

11. Implementation of STOP & WAIT protocol and sliding window protocol
12. Write a program to implement sub netting and find the subnet masks.

Week-8

13. Create a socket for HTTP for web page upload and download.
14. Create a socket (UDP)

Week-9

15. Using TCP/IP sockets, write a client server program to make client sending the file name and the server to send back the contents of the requested file if present.

Week-10

16. Simulation of ARP/RARP

Week-11

17. TCP Module Implementation

Week-12

18. Applications using TCP and UDP Sockets like d. DNS and SNMP

Course Outcomes

- Identify and use various networking components Understand different transmission media and design cables for establishing a network
- Implement any topology using network devices

- Analyze performance of various communication protocols.
- Compare routing algorithms
- Understand the TCP/IP configuration for Windows and Linux
- Implement device sharing on network
- Learn the major software and hardware technologies used on computer networks