

Unit– I

Introduction to data communication and Networks, LAN, WAN, MAN, Bluetooth, WLAN, Internet, Protocols and standards.ISO-OSI Reference Model layers and functions, TCP/IP Reference Model layers and functions. Comparison of OSI and TCP/IP reference model. (Lectures 10)

Unit II

Unshielded twisted pair(UTP), Coaxial cable, Shielded Twisted pair(STP), Optical fibre, Radio and Satellite links.(Lectures 4)

Unit III

Definition of packets and frames, transmission errors, Error Detection and Correction, Framing, Flow and error control. TCP/IP, Address resolution techniques and protocols, IP datagrams, Routing table entries, Services of TCP, End to end service and datagram, Packet loss and retransmission.IPv4, IPv6(Lectures 11)

Unit IV

Random access CSMA/CD, CSMA/CA, Controlled access, Channelization, Twisted pair Ethernet, 10 Base-T, 100 Base-T Ethernet, Network devices-repeaters, hubs, switches and bridges. Network protocols HTTP, FTP, DNS. (Lectures 11)

Essential Texts:

1. A. S. Tananbaum, “Computer Networks”, 3rd Ed, PHI, 1999
2. B.A Forouzan, “Data Communication and networking”, 4th edition, TMH, 2007

Practicals - Computer Networks.

1. Study of different types of Network cables and Practically implement the cross-wired cable and straight through cable using clamping tool.
Apparatus (Components): RJ-45 connector, Clipping Tool, Twisted pair Cable
2. Study of following Network Devices in Detail :Repeater Hub Switch Bridge Router Gate Way
Apparatus: No software or hardware needed
3. Study of network IP Classification of IP address Sub netting Super netting
4. File Transfer using TCP and UDP.
5. Connect the computers in Local Area Network.
6. Aim: Study of basic network command and Network configuration commands.
Apparatus (Software): Command Prompt And Packet Tracer.

7. SIMULATION OF SLIDING WINDOW PROTOCOL

AIM: To write a C program to perform sliding window.

8. DOMAIN NAME SYSTEM

AIM: To write a C program to develop a DNS client server to resolve the given
Hostname