	time applications.

UNIT I:

Introduction: Data communication, network applications, Data flow, network types, topologies, Protocols and standards, OSI and TCP/IP Protocol Suite.

Physical Layer: Introduction to Data and Signals, Transmission media (wired and wireless), Switching.

UNIT II:

Data Link Layer: Design issues, framing, error detection and correction, parity, LRC, CRC, hamming code, elementary data link protocols- Stop-and-wait, sliding window protocols.

Medium Access sublayer: ALOHA, CSMA/CD, LAN Standards: IEEE 802.3, IEEE 802.11.

UNIT III:

Network Layer: Network layer design issues, routing algorithms- Shortest Path Routing, Flooding, Distance Vector Routing, Link State Routing, IPV4, IPV6, Internet, Internet Control protocols - ARP, RARP, DHCP.

UNIT IV:

Transport Layer: Process to Process Communication, User Datagram Protocol (UDP), Transmission Control Protocol (TCP), Congestion control algorithms, Quality of Service.

UNIT V:

Application Layer: Domain Name System (DNS), EMAIL, File Transfer Protocol (FTP), WWW, HTTP, SNMP.

Learning Resources: