

**DATA COMMUNICATION NETWORK**

**Unit I: NETWORKING CONCEPTS**

Structure of Communication Network –Network Topologies – Telephone Networking – Fundamentals of Communications theory connecting the analog and digital worlds-Synchronizing Network components-Classification of communication protocols-polling/selection systems-non polling systems-peer to peer non-priority system –peer to peer priority system.

**Unit II: COMPONENTS AND NETWORK DISTRIBUTED ARCHITECTURE**

LAYERING: - Physical -Data link layer- network layer- transport layer-session layer-Application layer.

MODEMS:- Modulation techniques –multilevel transmission-other modems- advances in modems-modems market.

SWITCHING : - Circuit Switching –message switching –packet looping - Multiplexing line sharing –compression-FDM –TDM-TDMA

**Unit III: LOCAL AREA NETWORK**

Introduction-LAN definition –usage –major components of LAN – LAN protocols standards-CSMA/CD-Token ring –token bus- MAN - fiber distributed data Interface (FDDI) – Logical link control - other LAN (ETHERNET IBM token ring)

**Unit IV: DIGITAL NETWORK AND PBX**

Signal conversion- digital carrier systems –channel and data service units-A/D techniques-ISDN :-Narrow and broad band ISDN. Evaluation of PBX – issue of voice data integration –using PBX in LAN- IV generation PBX- digital multiplexed interface (DMI) and computer to PBX (CPI ) proposals.

**Unit V: DATA COMMUNICATION APPLICATIONS**

Fascimile –scanning methods-flat bed scanner-FAX standards - fax system Telematics-teletex –E MAIL – X .400, X.500 Concept of Internet -feature of Internet –Types of connectors-Internet tools.

**TEXTBOOKS**

1. Computer Networks-Uyless Black –Second Edition-PHI
2. Data Communication and Distributed Networks-Uyless Black – Third Edition
3. Telecommunication Transmission Systems-Robert G. Winch-McGraw- Hill
4. Data Networks-Dimitri Bertsekas, Robert Gallyer-PHI
5. Internet Concepts Problems and solution-Singh and Singh