

AME23 COMPUTER COMMUNICATION NETWORK

PART-I LOCAL AREA NETWORKS

UNIT-1 LAN TECHNOLOGY

- 1.1 LAN Applications, LAN Architecture,
- 1.2 Bus LANs, Ring LANs, Star LANs,
- 1.3 Wireless LANs, Bridges,

UNIT-2 LAN SYSTEMS

- 2.1 Ethernet (CSMA/CD),
- 2.2 Token Ring and FDDI,
- 2.3 ATM LANs, Fibre Channel,
- 2.4 Wireless LANS.

PART – II COMMUNICATIONS ARCHITECTURE AND PROTOCOLS

UNIT-1 INTERNET PROTOCOLS

- 1.1 Principles of Internetworking,
- 1.2 Connectionless Internetworking,
- 1.3 Internet Protocol, IPv6, IP Multicasting.

UNIT-2 INTERNETWORK OPERATION

- 2.1 Routing Protocols,
- 2.2 Integrated Services Architecture,
- 2.3 Resource Reservation,
- 2.4 RSVP, differentiated Services,

UNIT-3 TRANSPORT PROTOCOLS

- 3.1 Connection-Oriented Transport Protocol Mechanisms,
- 3.2 TCP, TCP Congestion control, UDP.

UNIT-4 NETWORK SECURITY

- 4.1 Security Requirements and Attacks, confidentiality with Conventional Encryption,
- 4.2 Message Authentication and Hash Functions,
- 4.3 Public –Key Encryption and Digital Signatures, IPv4 and IPv6 Security.

UNIT-5 DISTRIBUTED APPLICATION

- 5.1 Abstract Syntax Notation one (ASN.1),
- 5.2 Network Management, SNMP, electronic Mail : SMTP and MIME,
- 5.3 Hypertext Transfer Protocol (HTTP).

PART –III WIDE AREA NETWORK

UNIT-1 CIRCUIT SWITCHING

- 1.1 Switching Networks, Circuit Switching Networks,

- 1.2 Circuit Switching Concepts,
- 1.3 Routing in Circuit
- 1.4 Switching Networks.

UNIT-2 PACKET SWITCHING

- 2.1 Packet Switching Principles,
- 2.2 Routing, X.25

UNIT-3 ATM AND FRAME RELAY

- 3.1 Protocol Architecture,
- 3.2 ATM Logical Connections,
- 3.3 ATM Cells,
- 3.4 Transmission of ATM Cells.

UNIT-4 CONGESTION CONTROL IN DATA NETWORKS

- 4.1 Effects of Congestion, Congestion Control,
- 4.2 Traffic Management, Congestion Control in Packet
- 4.3 Switching Networks,
- 4.4 ATM Traffic Management.

Reference Books:

- 1. Data and Computer Communication by William Stallings
- 2. Data Communication and Networking by Behrouz A Forouzan

