AMET 23 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