

AMET 23 : COMPUTER COMMUNICATION **NETWORK**

PART – I LOCAL AREA NETWORKS

1. LAN TECHNOLOGY

Lan Applications, LAN Architecture, Bus LANs, Ring LANs, Star LANs, Wireless LANs, Bridges,

2. LAN SYSTEMS

Ethernet (CSMA/CD), Token Ring and FDDI, ATM LANs, Fibre Channel, Wireless LANS.

PART – II COMMUNICATIONS ARCHITECTURE AND PROTOCOLS

1. INTERNET PROTOCOLS

Principles of Internetworking, Connectionless Internetworking, Internet Protocol, IPv6, IP Multicasting.

2. INTERNETWORK OPERATION

Routing Protocols, Integrated Services Architecture, Resource Reservation, RSVP, differentiated Services,

3. TRANSPORT PROTOCOLS

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

4. NETWORK SECURITY

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

5. DISTRIBUTED APPLICATION

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

PART –III WIDE AREA NETWORK

1. CIRCUIT SWITCHING

Switching Networks, Circuit Switching Networks, Circuit Switching Concepts, Routing in Circuit – Switching Networks.

2. PACKET SWITCHING

Packet Switching Principles, Routing, X.25

3. ATM AND FRAME RELAY

Protocol Architecture, ATM Logical Connections, ATM Cells, Transmission of ATM Cells.

4. CONGESTION CONTROL IN DATA NETWORKS

Effects of Congestion, Congestion Control, Traffic Management, Congestion Control in Packet – Switching Networks, ATM Traffic Management.