Data Communication & Computer Networks
Code: MCA201
CREDITS: 4

Introduction to computer network- Topology; Base Band & Broad Band Topology; Guided & Unguided Media.

Overview of Data & Signal Bits. Baud & Bit Rate. Modulation (AM, PM, FM); Multiplexing (TDM, FDM, STDM).

Encoding (RZ, NRZ, BIPLOAR, MANCHESTER, DIFF. MANCHESTER).

Digital To Analog – ASK, PSK, FSK, QPSK.

Transmission methods – Synchronous & Asynchronous, Flow Control, Error Control, Error Detection methods.

Goals of Layered protocols- Introduction to OSI, TCP/IP, IBM, SNA, ATM.
Bit oriented (BSC) & Character oriented Protocol (SDLC, LAPB, LAPD, LLC)
HDLC- frame format, station, states, configuration, access control.

LAN Topology – Ethernet (IEEE 802.3), Token Bus (IEEE 802.4), Token Ring (IEEE 802.5)

Introduction to WAN – DQDB (IEEE 802.6) & FDDI.

Switching Technologies – Circuit, Message, and Packet.

X.25, X.21, RS-232 C – frame format, channel, packet frames, facilities (In brief Only).

ISDN- D channel, B-Channel, International Standards, NT1, NT2, TA, TE Devices.

Introduction to leased lines, DSL, Digital Carriers.

Bridging & Routing – Static & Dynamic (In Brief).

IP, IP addressing, ICMP, ARP.RARP.

Congestion Control, TCP, UDP.

HTTP,FTP,Telnet,SMTP.

Introduction to data security (private key, public key, ISO standards).

Introduction to Mobile technology (Topology, FDM, TDM, CDMA), Satellite Communication (LEO, GEO, TDM).