Elective-II (EX-7203 Computer Networks)

Unit- I

Introduction to computer network, classification of networks (WAN, MAN, LAN), distributed systems, digital signals and data rates, bit stream, symbols and band rate, transmission media, modems, structure of computer network, circuit, packet, message switching topological design, back bone design OSI, reference model.

Unit- II

Physical and data link layer, bit communication between DTE and DCE, RS232C, novel modem Terminal handling, multiplexing and concentration data link layer service and design issues, errors detection and correction, retransmission strategies, sliding window protocols, satellite and packet radio networks, pure aloha protocols, slotted aloha protocol, satellite networks, reservation aloha protocol, DES, PCEM, packet radio networks.

Unit-III

Network layer, basic design issues, network layer services, connection oriented and connection less services, routing, static multipath, centralized isolated distributed hierarchical broadcast, flow based routing, congestion deadlocks radio concept of Ethernet LAN topology and architecture CSMA/CD protocol, token ring LAN token bus LAN, Fiber optic LAN principle of LAN bridges, transparent bridge source routing bridges, gateway, gateway design issues x25 internet working.

Unit-IV

ISDN, B-ISDN and ATM, evolution of ISDN, goal of ISDN services, ISDN system architecture and network terminating devices ISDN interface ISDN signaling, broad band ISDN, Asynchronomous transfer modem ATM adaptation layer, transport layer, OSI transport protocol, session layer designing issues, data exchange OSI session layer primitives, transport protocol TCP

Unit-V

Presentation layer, abstract syntax notation data compressed on oxyptography, application layer OST service elements ACSE and CCR, the transfer access and management, concurrence control nistual terminals, electronic mail directory services distributed systems, formal protocol modules, network management, mobile networking.

Unit-VI

Networking Equipments and Monitoring Tools Routers, Modems, Switches, Gateways, online networking monitoring tools, Network security, Proxy Server design.

References:

1. Tanenbum, Computer Networks, PHI.

2. Keizer, LANs.

3. Stalling W., Computer Networks, PHI.

4. ISDN & Broadband.

5. ISDN: Stalling W., PHI.