

13-EC581 HIGH PERFORMANCE COMMUNICATION NETWORKS

SYLLABUS

Principles Of Networks networking principles, Network services, High performance networks, Network elements, network mechanisms, layered architecture Packet Switched Networks Principles, OSI & TCP/IP models, transmission media, routing algorithms, Congestion control algorithms, Internetworking, Ethernet(IEEE 802.3), Tokenring (IEEE 802.5),Tokenbus (IEEE802.4), FDDI., Network security(cryptography, symmetric key algorithms, private key algorithms, digital signatures, authentication protocols) The Internet And TCP/IP Networks & Circuit Switched Networks Overview of Internet protocols, Internet control protocols, Elements of transport Protocols, TCP & UDP , Performance of TCP/IP networks, SONET, DWDM, Solitons, Optical Networks fiber principles (elements of optical fiber communication, acceptanceangle, Numerical aperture, modes, fiber types), optical links(point to point links,attenuation,optical budgeting, dispersion),splices ,connectors optical Lans,non Semiconductors, opticalamplifiers,Erbium doped Fiber mplifiers, couplers/splitters, optical switches ATM networks Main features of ATM, Addressing , signaling, routing, ATM header structure

TEXT BOOKS

1. Jean Walrand and Pravin variya , “ High performance Communication networks”, 2nd edition, Harcourt and Morgan Kauffman, London 2000
2. Andrew S. Tanenbaum, “Computer networks”, PHI Private limited, new Delhi

REFERENCES

1. Gerd Keiser, MC Graw Hill International edition, optical fiber communication , third edition
2. John M Senior, PHI limited, optical fiber communication , third edition
3. Leon Gracia, Widjaja, “ Communication Networks”, Tata Mc Graw –Hill, New Delhi, 2000.
4. Behroz a. Forouzan, “Data communication and networking “, Tata MC Graw –Hill, New Delhi
5. Sumit Kaseera, Pankaj Sethi, “ ATM Networks”, Tata Mc Graw- Hill, New Delhi , 2000