ST. ANN'S COLLEGE OF ENGINEERING &TECHNOLOGY: CHIRALA
DEPARTMENT OF COMPUTERSCIENCE & ENGINEERING
LESSON PLAN

Subject: COMPUTER NETWORKS **Academic Year: 2017-18**
Name: Dr. S.INDRANEEL **Year & Sem/Section: III-II SEM 'B & C'**
No. of Lectures per week : 4+1* (Tutorial)

S.No. / Unit/Topic No.	Sub Topic Names	No. of Classes required
I	**Introduction**: OSI overview, TCP/IP and other networks models, Examples of Networks: Novell Networks, Arpanet, Internet, Network Topologies WAN, LAN, MAN.	6
II	**Physical Layer and overview of PL Switching**: Multiplexing: frequency division multiplexing, wave length division multiplexing, synchronous time division multiplexing, statistical time division multiplexing, introduction to switching: Circuit Switched Networks, Datagram Networks, Virtual Circuit Networks.	6
III	**Data link layer**: Design issues, **Framing**: fixed size framing, variable size framing, flow control, error control, error detection and correction, CRC, Checksum: idea, one's complement internet checksum, services provided to Network Layer, **Elementary Data Link Layer protocols**: simplex protocol, Simplex stop and wait, Simplex protocol for Noisy Channel.	7
	Sliding window protocol: One bit, Go back N, Selective repeat-Stop and wait protocol, Data link layer in HDLC: configuration and transfer modes, frames, control field, point to point protocol (PPP): framing transition phase, multiplexing, multi link PPP.	5
IV	**Random Access:** ALOHA, MAC addresses, Carrier sense multiple access (CSMA), CSMA with Collision Detection, CSMA with Collision Avoidance, Controlled Access: Reservation, Polling, Token Passing, Channelization: frequency division multiple access(FDMA), time division multiple access(TDMA), code division multiple access(CDMA).	8
	Network Layer: Virtual circuit and Datagram subnets-Routing algorithm shortest path routing, Flooding, Hierarchical routing, Broad cast, Multi cast, distance vector routing.	5
V	**IEEE Standards**: – data link layer, physical layer, Manchester encoding, Standard Ethernet: MAC sub layer, physical layer, Fast Ethernet: MAC sub layer, physical layer, IEEE-802.11: Architecture, MAC sub layer, addressing mechanism, frame structure.	6
VI	**Application layer (WWW and HTTP):** ARCHITECTURE : Client (Browser) ,Server ,Uniform Resource Locator HTTP: HTTP Transaction, HTTP Operational Model and Client/Server Communication, HTTP Generic Message Format, HTTP Request Message Format, HTTP Response Message Format **The wireless web :** WAP—The Wireless Application Protocol	5
	Total No. of hours	**48**

Text Books	
1	Data Communications and Networking, 4th edition, Behrouz.A.Fourzan, TMH.
2	Computer Networks, 5ed, David Patterson, Elsevier
3	Computer Networks, 4th edition, Andrew S Tanenbaum, Pearson.
4	Computer Networks, Mayank Dave, CENGAGE.
References	
1	An Engineering Approach to Computer Networks-S.Keshav, 2nd Edition, Pearson Education
2	Understanding communications and Networks, 3rd Edition, W.A. Shay, Thomson

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