

Subject Code : 2CS1010306	Subject Title: COMPUTER NETWORK
Pre-requisite :	-

Course Objective:

The course aims to provide the basic knowledge of various types of computer networks, network topologies and reference models. Student is expected to learn different kinds of transmission media and data communication components. The course is intended to make the students familiar with IP addressing and mobile computing.

Teaching Scheme (Hours per week)				Evaluation Scheme(Marks)								
Lecture	Tutorial	Practical	Credit	Theory				Practical				Total
				University Assessment		Continuous Assessment		University Assessment		Continuous Assessment		
				Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	
3	1	-	4	28	70	12	30	-	-	-	-	100

Subject Contents			
Sr. No.	Topics	Total Hours	Weight (%)
1	Basic of Computer Networks: Definition of Networking - Advantages and disadvantages of computer networking. Types of Networks - LAN, MAN, WAN. Network Topology – Star, Ring, Bus, Tree, Mesh, Complete, Irregular.	10	20
2	Reference Models - The OSI reference model, The TCP/IP reference model The Telephone System: Structure of Telephone System, The Local Loop, Trunk Multiplexing: FDM and TDM	10	20
3	Transmission Media: Types of Transmission media - Magnetic media, twisted pair, co-axial cable (Baseband and broadband), fiber cables, comparison of fiber optic and copper wire. Wireless Transmission Media: Radio Transmission, Microwave Transmission, Infrared.	10	20
4	Data Communication Components: Modem, Hubs, Repeater, Routers, Bridges, Switches. Switching: Circuit switching, Message switching, Packet Switching.	9	20
5	IP Addressing: IP Address class, Network and Host Addressing, Subnet, Subnet Mask, Sub netting, Super netting. Mobile Computing: Overview, Applications of Mobile Computing, Characteristics of Mobile Computing	9	20

Course Outcomes:

At the end of this course, the student would be able

- To understand fundamental knowledge of computer network and its topologies.
- To learn various references models like OSI and TCP/IP.
- To identify and work with various transmission media, cables and connectors.
- to familiar with terminology used with Data Communication and Networking.
- To understand the fundamentals of Mobile computing.

List of References:

1. Data Communications and Networking, Behrouz A. Forouzan. TMH publication.
2. Computer Networks, A. S. Tanenbaum. PHI publication.
3. Fundamentals of Mobile Computing, Prasant Kumarajib Mall Pattnaik PHI publication.

E-Resources / Web Links:

- ② <http://williamstallings.com/DataComm/>
- ② <http://williamstallings.com/Network/>
- ② <https://www.pearsonhighered.com/cs-resources/products/product.html#product,isbn=0132126958>
- ② https://en.wikipedia.org/wiki/Mobile_computing