

COMPUTER NETWORKS

Semester	Subject Code	Category	Lecture Hrs		Theory Hrs		Practical		Credits
			Per week	Per Sem	Per week	Per Sem	Per week	Per Sem	
II	21CPCS 2D	ELECTIVE -II	5	75	5	75	0	0	5

COURSE OBJECTIVE

- The course provides the overviews learning about computer network organization and implementation, obtaining a theoretical understanding of data communication.

COURSE OUTCOME

successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	Learning the fundamental concepts of computer networking.	K2
CO2	To familiarize the student with the basic taxonomy and terminology of the transmission medium.	K3
CO3	Analyse the technique of error detection and correction	K2
CO4	Understanding the importance of routing algorithms	K3
CO5	To learn about networking and internetworking devices	K4

Knowledge Level – K1-Remember, K2- Understand, K3-Apply, K4-Analyze

MAPPING WITH PROGRAMME OUTCOME

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	S	M	S	S
CO2	S	S	M	M	S	M
CO3	S	M	S	M	S	S
CO4	S	S	M	S	M	S
CO5	S	S	S	M	M	S

S-Strong, M-Medium and L-Low

UNIT I - BASICS OF COMPUTER NETWORKS**14 Hours**

Introduction to computer networks - Uses of network-Network structure - The OSI reference model concepts-Layers of the OSI model.

UNIT II – TRANSMISSION MEDIUM**16 Hours**

The Physical layer-Different types of transmission medium-CODEC-Switching techniques-Channel allocation methods-ALOHA protocol-LAN protocol (any one protocol)-IEEE standards 802.3,802.4 and 802.5.

UNIT III – DATA LINK LAYER**15 Hours**

The data link layer - design issues-Concept of framing - Different methods - Error detection and correction: Single error correction and cyclic redundancy check.

UNIT IV – NETWORK LAYER**14 Hours**

The network layer-design issues-Internal organization of network layer - Congestion control algorithm, Leaky bucket algorithm and token bucket algorithm - Dijkstra routing algorithm.

UNIT V – OSI LAYERS**16 Hours**

Repeaters, Bridges, Routers and Gateways-Brief introduction to the transport layer, session layer, presentation layer and application layer-Basic concepts of Internet WWW.

Distribution of Marks: Theory 75% and Problem 25%

TEXTBOOKS

S. NO	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1	James F. Kurose and Keith W. Ross	Computer Networking	Pearson Education	2006
2	Andrew S. Tanenbaum	Computer Networks	4th edition, Prentice-Hall of India.	2003
3	Charles P.fleeger, S.L.Pfleeger	Security in Computing	Pearson Education, Fourth Edition,	2013

REFERENCEBOOKS

S. NO	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1	Achyut Godbole	Data Communication and Networks	Tata McGraw Hill Publicatons	2007

2	Uyless Black	Computer Networks Protocols, Standards, and Interfaces	PHI, Second Edition	2010.
3	Sarma.C.R	Computer Networks Pragmatic Approach	Jaico Publishing Home,	2005.

WEB RESOURCES

1. <https://www.studytonight.com/computer-networks/>

2. https://www.tutorialspoint.com/data_communication_computer_network/

TEACHING METHODOLOGY

- Class room teaching & Group discussions
- Seminars & Smart Class room
- Chart/Assignment & Simulation Model

SYLLABUS DESIGNER

- Mrs.G.SANGEETHA LAKSHMI, Assistant professor & HOD, Dept of Computer Science & Applications
- Mrs. B.ARULMOZHI Assistant professor, Dept of Computer Science & Applications