



# COLLEGE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

## DEPARTMENT OF INFORMATION TECHNOLOGY TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
20CS5T01	Computer Networks	V	IT	5	2023-2024	03-07-2023

### **COURSE OUTCOMES**

1	Differentiate network reference models such as OSI, TCP/IP.
2	Classify various Data Link Layer protocols such as sliding window.
3	Distinguish various MAC sub Layer Protocols and also differentiate various Network layer protocols and Its Applications.
4	Distinguish various Transport layer protocols and its applications.
5	Illustrate various application layer protocols such as WWW and HTTP etc.

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/ Activity	Text Book/ Reference	Contact Hours	Delivery Method
I	CO – 1	1.1	Representation of data	T1	1	Chalk & Board  Power point presentations  Assignment  Test
		1.2	Data flow	T1	1	
		1.3	Categories of Networks	T1	1	
		1.4	Various Connection Topology	T1,R1	1	
		1.5	Protocols	T1	1	
		1.6	Standards	T1	1	
		1.7	Layers in the OSI model	T1,R1	1	
		1.8	Layers in the OSI model	T1,R1	1	
		1.9	TCP/IP Protocol suit	T1	1	
		1.10	Layers in TCP/IP	T1	1	
		1.11	Transmission Media- Guided media and unguided media	T1	1	
Content beyond syllabus		1.12	Architecture of a network and ARPANET	R1	1	
Total					12	



II	CO – 2	2.1	Error Detection	T1,T2	1	Chalk & Board  Power point presentations  Assignment  Test
		2.2	Error Correction	T1,T2	1	
		2.3	Block coding and Hamming Distance	T1,T2	1	
		2.4	Cyclic Codes	T1,T2	1	
		2.5	CRC	T1,T2	1	
		2.6	Framing	T1,T2	1	
		2.7	Flow Control	T1,T2	1	
		2.8	Error control			
		2.9	Stop and Wait Protocol	T1	1	
		2.10	Go back – N ARQ	T1	1	
		2.11	Selective Repeat ARQ	T1	1	
		2.12	Sliding Window Protocols	T1	1	
		2.13	Piggybacking	T1	1	
		Content beyond syllabus		2.14	HDLC	
Total					14	
III	CO – 3	3.1	Random Access - Pure ALOHA	T1,R1	1	Chalk & Board  Power point presentations  Assignment  Test
		3.2	Slotted ALOHA	T1,R1	1	
		3.3	CSMA	T1,R1	1	
		3.4	CSMA/CD	T1,R1	1	
		3.5	CSMA/CA	T1,R1	1	
		3.6	Switching	T1,T2	1	
		3.7	Circuit switched networks	T1,T2	1	
		3.8	Logical addressing – IPV4	T1,T2	1	
		3.9	Classfull and Classless Addressing	T1,T2	1	
		3.10	Network Address Translation (NAT)	T1,T2	1	
		3.11	Logical addressing – IPV6	T1,T2	1	
		3.12	Address mapping – ARP	T1,T2	1	
		3.13	RARP	T1,T2	1	
		3.14	BOOTP	T1,T2	1	
		3.15	DHCP	T1,T2	1	
		Content beyond syllabus		3.16	Ethernet	
Total					16	



IV	CO – 4	4.1	Process to Process Communication	T1	1	Chalk & Board  Power point presentations  Assignment  Test
		4.2	Process to Process Delivery	T1	1	
		4.3	User Datagram Protocol (UDP)	T1	1	
		4.4	UDP operation, Use of UDP	T1	1	
		4.5	Transmission Control Protocol (TCP) – Services and features	T1	1	
		4.6	A TCP connection	T1	1	
		4.7	Congestion control	T1	1	
		4.8	Quality of Service	T1	1	
		4.9	QOS improving techniques	T1	1	
		4.10	Leaky Bucket algorithm	T1	1	
		4.11	Token Bucket algorithm	T1	1	
		Total				
V	CO – 5	5.1	Domain Name Space (DNS)	T1,R1	1	Chalk & Board  Power point presentations  Assignment  Test
		5.2	Distribution of name space	T1,R1	1	
		5.3	DDNS	T1,R1	1	
		5.4	TELNET	T1,R1	1	
		5.5	Electronic Mail – architecture	T1,R1	1	
		5.6	File Transfer Protocol(FTP)	T1,R1	1	
		5.7	Anonymous FTP	T1,R1	1	
		5.8	WWW	T1,R1	1	
		5.9	HTTP	T1,R1	1	
	Content beyond syllabus		5.10	Dynamic web pages and web applications	R1	1
Total				10		
CUMULATIVE PROPOSED PERIODS				63		

**Text Books:**

S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Behrouz A. Forouzan, Data Communication and Networking, 5 <sup>th</sup> Edition, McGrawHill Education, 2017.



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2	William Stallings, Data and Computer Communication, 10 <sup>th</sup> Edition, Pearson Education, 2017.
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S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Andrew S. Tanenbaum, David J Wetherall, Computer Networks, 5 <sup>th</sup> Edition, Pearson Education, 2014.
2	Kurose James F, Ross Keith W, Computer Networking – A top down approach, 6 <sup>th</sup> Edition, Pearson, 2017.

**Web Details:**

1	<a href="https://www.javatpoint.com/computer-network-tutorial">https://www.javatpoint.com/computer-network-tutorial</a>
2	<a href="https://www.geeksforgeeks.org/computer-network-tutorials/">https://www.geeksforgeeks.org/computer-network-tutorials/</a>
3	<a href="https://www.tutorialspoint.com/data_communication_computer_network/index.htm">https://www.tutorialspoint.com/data_communication_computer_network/index.htm</a>
4	<a href="https://www.guru99.com/data-communication-computer-network-tutorial.html">https://www.guru99.com/data-communication-computer-network-tutorial.html</a>

	Name	Signature with Date
i. Faculty	Ms. Ch Jame Grace	21. Aug
ii. Module Coordinator	Mr. Ch Rama Krishna Raju	21.8
iii. Programme Coordinator	Dr. RVSV Prasad	RVSV Prasad

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