DEPARTMENT OF INFORMATION TECHNOLOGY
TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
20ITCS01	Computer Networks	V	CSE & BS	6	2024-2025	05-06-2024

COURSE OUTCOMES

1	Classify network reference models such as OSI, TCP/IP. (K2)
2	Apply Data Link Layer protocols for Error detection and correction. (K4)
3	Distinguish various MAC sub layer Protocols such as ALOHA, CSMA, CSMA/CD. (K4)
4	Identify various Network layer and Transport layer protocols. (K3)
5	Illustrate various application layer protocols such as WWW and HTTP etc. (K2)

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 E-Learning through NPTEL 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	

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

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IV	CO – 4	4.1	Process to Process Communication	T1	1	Chalk & Board Power point presentations E-Learning through NPTEL 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		**11**	
V	CO – 5	5.1	Domain Name Space (DNS)	T1,R1	1	Chalk & Board Power point presentations E-Learning through NPTEL Video Lecture 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, 5th Edition, McGrawHill Education, 2017.

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2	William Stallings, Data and Computer Communication, 10th Edition, Pearson Education, 2017.	

Reference Books:

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

Web Details:

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

		Name	Signature with Date
i.	Faculty	Mr. Ch Praveen	
ii.	Module Coordinator	Mr. Ch Rama Krishna Raju	
iii.	Programme Coordinator	Dr. RVVSV Prasad	

Principal

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