



KAMALA INSTITUTE OF TECHNOLOGY & SCIENCE

Sponsored by VODITHALA EDUCATION SOCIETY, Approved by AICTE-New Delhi and Affiliated to JNTU-Hyderabad, T.S, Accredited With NBA & NAAC B++ Grade
SINGAPUR, HUZURABAD, KARIMNAGAR, TELANGANA, INDIA- 505468
Department of Computer Science & Engineering

TEACHING SCHEDULE

Course Title	Computer Networks			
Course Code	CS503PC			
Regulation	R18 Academic year 2022-2023			
Course & Branch	III B.Tech I Semester CSE			
Course Structure	Lectures	Tutorials	Practicals	Credits
	3	--	---	3
Faculty Name	E.Pradeep			

Text Books:


1. Computer Networks -- Andrew S Tanenbaum, David. j. Wetherall, 5th Edition. Pearson Education/PHI

Reference Books:

1. An Engineering Approach to Computer Networks-S. Keshav, 2nd Edition, Pearson Education
2. Data Communications and Networking – Behrouz A. Forouzan. Third Edition TMH.

S.No	Topic	No. of Classes	Text Book/ Reference books
UNIT-I.			
01	Network hardware	1	T1,R1& R2
02	Network software	1	T1,R1& R2
03	ISO-OSI Reference model	2	T1,R1& R2
04	TCP/IP Reference model	2	T1,R1& R2
05	Example Networks: ARPANET, Internet.	1	T1,R1& R2
06	Transmission media: Guided Transmission media: Twisted pairs, Coaxial cable	2	T1,R1& R2
07	Fiber optics, Wireless transmission	1	T1,R1& R2
	Total	10	T1,R1& R2
UNIT – II Data link layer			
08	Design issues, framing	1	T1,R1& R2
09	Error detection and correction	1	T1,R1& R2
10	Elementary data link protocols: simplex protocol, A simplex stop and wait protocol for an error-free channel, A simplex stop and wait protocol for noisy channel.	3	T1,R1& R2
11	Sliding Window protocols: A one-bit sliding window protocol, A protocol using Go-Back-N, A protocol using Selective Repeat, Example data link protocols.	2	T1,R1& R2

12	Medium Access sub layer: The channel allocation problem,	2	T1,R1& R2
13	Multiple access protocols: ALOHA, Carrier sense multiple access protocols, collision free protocols.	2	T1,R1& R2
14	Wireless LANs, Data link layer switching.	2	T1,R1& R2
	Total	13	T1,R1& R2
UNIT – III Network Layer			
15	Design issues	1	T1,R1& R2
16	Routing algorithms: shortest path routing, Flooding, Hierarchical routing, Broadcast, Multicast, distance vector routing,	6	T1,R1& R2
17	Congestion Control Algorithms	3	T1,R1& R2
18	Quality of Service	1	T1,R1& R2
19	Internetworking, The Network layer in the internet.	2	T1,R1& R2
	Total	13	T1,R1& R2
UNIT – IV Transport Layer			
20	Transport Services	1	T1,R1& R2
21	Elements of Transport protocols	1	T1,R1& R2
22	Connection management	2	T1,R1& R2
23	TCP and UDP protocols	2	T1,R1& R2
	Total	6	T1,R1& R2
UNIT – V Application Layer			
24	Domain name system	1	T1,R1& R2
25	SNMP	1	T1,R1& R2
26	Electronic Mail	1	T1,R1& R2
27	The World WEB	1	T1,R1& R2
28	HTTP	1	T1,R1& R2
29	Streaming audio and video	1	T1,R1& R2
	Total	6	T1,R1& R2
	Total Number of Classes	48	


Faculty


Head of the Department



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Department of Computer Science & Engineering

CO-PO Mapping

Subject: Computer Networks

Regulation: R18

Course code: CS503PC

Academic Year: 2022-23

Course Outcomes(Cos)

Sno	Course code	Course Outcomes
1	CS503PC.1	Understand fundamental underlying principles of data communications and computer networking & enumerate the layers of the OSI model and explain the function(s) of each layer.
2	CS503PC.2	Model and Analyze mathematically various error control schemes and different MAC mechanisms (Aloha, Slotted Aloha, TDMA, FDMA) and understand their pros and cons
3	CS503PC.3	Understand and building the skills of subnetting and routing mechanisms to find shortest path in a given network
4	CS503PC.4	Understand the principles in establishing and releasing connections through Transport layer protocols.
5	CS503PC.5	Understand the application layer protocols HTTP, WWW,E-mail,DNS,SNMP etc.


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CO-PO Mapping (Target Table)

Subject: Computer Networks

Regulation: R18

Course code: CS503PC

Academic Year: 2022-23

Course outcomes	Program outcomes												Program specific outcomes			
	Po1	Po2	Po3	Po4	Po5	Po6	Po7	Po8	Po9	Po10	Po11	Po12	Pso1	Pso2	Pso3	Pso4
CS503PC.1	2	2	—	—	—	—	—	—	—	—	—	—	2	—	—	—
CS503PC.2	—	—	2	2	2	—	—	—	—	—	—	—	—	—	2	—
CS503PC.3	—	2	—	2	—	—	—	—	—	—	—	2	—	2	—	—
CS503PC.4	2	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
CS503PC.5	2	2	—	—	—	—	—	—	—	—	—	—	2	—	—	—
Average	2	1.8	2	2	2							2	2	1.5	2	


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