SARDAR RAJA COLLEGE OF ENGINEERING

RAJA NAGAR, ALANGULAM

Department of Computer Science & Engineering

Subject Name   : COMPUTER NETWORKS

Subject Code   : CS2363

Year   : III– B.E.(EEE)

Semester   : VI

Prepared By,

J.ALBERT SIMON,

AP/CSE.

CS2363   **COMPUTER NETWORKS**   **L T P C**
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Unit I   **9**
Introduction to networks – network architecture – network performance – Direct link networks – encoding – framing – error detection – transmission – Ethernet – Rings –FDDI - Wireless networks – Switched networks – bridges

Unit II   **9**
Internetworking – IP - ARP – Reverse Address Resolution Protocol – Dynamic Host Configuration Protocol – Internet Control Message Protocol – Routing – Routing algorithms – Addressing – Subnetting – CIDR – Inter domain routing – IPv6

Unit III   **9**
Transport Layer – User Datagram Protocol (UDP) – Transmission Control Protocol –Congestion control – Flow control – Queuing Disciplines – Congestion Avoidance Mechanisms.

Unit IV

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Data Compression – introduction to JPEG, MPEG, and MP3 – cryptography –symmetric-key – public-key – authentication – key distribution – key agreement – PGP –SSH – Transport layer security – IP Security – wireless security – Firewalls

Unit V   **9**
Domain Name System (DNS) – E-mail – World Wide Web (HTTP) – Simple Network Management Protocol – File Transfer Protocol (FTP)– Web Services -Multimedia Applications – Overlay networks

                                        L=45 T=15   TOTAL=60 PERIODS
TEXT BOOK:

1.Larry L. Peterson and Bruce S. Davie, "Computer Networks: A Systems Approach",
Fourth Edition, Elsevier Publishers Inc., 2007.

REFERENCES:

1. James F. Kuross and Keith W. Ross, "Computer Networking: A Top-Down Approach
Featuring the Internet", Third Edition, Addision wesley, 2004.
2. Andrew S. Tanenbaum, "Computer Networks", Fourth Edition, PHI, 2003.
3. William Stallings, "Data and Computer Communication", Sixth Edition, Pearson
Education, 2000.
4. Nader F. Mir, "Computer and communication networks", Pearson Education, 2007.

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SUBJECT DESCRIPTION AND OBJECTIVES

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DESCRIPTION

A computer network, or simply a network, is a collection of computers and other hardware interconnected by communication channels that allow sharing of resources and information. Simply, more than one computer interconnected through a communication medium for information interchange is called a computer network.

Networks may be classified according to a wide variety of characteristics, such as the medium used to transport the data, communications protocol used, scale, topology, benefit, and organizational scope.

Communications protocols define the rules and data formats for exchanging information in a computer network, and provide the basis for network programming. Well-known communications protocols include Ethernet, a hardware and link layer standard that is ubiquitous in local area networks, and the Internet protocol suite, which defines a set of protocols for internetworking, i.e. for data communication between multiple networks, as well as host-to-host data transfer, and application-specific data transmission formats.

Computer networking is sometimes considered a sub-discipline of electrical engineering, telecommunications, computer science, information technology or computer engineering, since it relies upon the theoretical and practical application of these disciplines

OBJECTIVE:

- To understand how the networks can be made and types of the networks.

- To introduce the various concepts behind the computer networks.

- To know about the data compression, security in the Networks.

MICRO LESSON PLAN

Hours	LECTURE TOPICS	READING
	UNIT I	
1	Introduction To Networks, Network Architecture (AV class)	T1
2	Network Performance	T1
3	Direct Link Networks	T1
4,5	Encoding ,Framing	T1
6	Error Detection, Transmission	T1
7	Ethernet , Rings(AV class)	T1
8	FDDI, Wireless Networks	T1
9	Switched Networks, Bridges	T1
10,11,12	Tutorial	T1
	UNIT II	
13	Internetworking – IP	T1
14	ARP – Reverse Address Resolution Protocol(AV class)	T1
15,16	Dynamic Host Configuration Protocol	T1
17	Internet Control Message Protocol(AV class)	T1
18,19	Routing – Routing Algorithms	T1
20	Addressing	T1
21	Subnetting	T1
22,23	CIDR – Inter Domain Routing	T1
24	IPv6	T1
	UNIT III	
25	Transport Layer(AV class)	T1
26	User Datagram Protocol (UDP)	T1
27,28	Transmission Control Protocol	T1
29,30	Congestion Control	T1
31,32	Flow Control(AV class)	T1
33,34	Queuing Disciplines	T1
35,36	Congestion Avoidance Mechanisms	T1
	UNIT IV	
37	Data Compression – Introduction To JPEG, MPEG, MP3	T1
38	Cryptography	T1
39	Symmetric-Key , Public-Key – Authentication	T1
40	Key Distribution	T1
41	Key Agreement	T1

Hours	LECTURE TOPICS	READING
42,43	PGP	T1
44	SSH	T1
45	Transport Layer Security	T1
46	IP Security(AV class)	T1
47	Wireless Security	T1
48	Firewalls(AV class)	T1
	UNIT V	
49	Domain Name System (DNS)	T1
50	E-mail	T1
51,52	World Wide Web (HTTP)	T1
53	Simple Network Management Protocol	T1
54,55	File Transfer Protocol (FTP)	T1
56	Web Services(AV class)	T1
57,58	Multimedia Applications(AV class)	T1
59,60	Overlay networks	T1

Prepared by,
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