

PESIT Bangalore South Campus

10CS64: COMPUTER NETWORKS - II

Faculty Members: Ms. JerminJeanita T C & Ms. Bidisha

No. Of Hours Specified: 52

No. Of Sessions Specified:60

Class #		Topic to be covered	% of portions covered	
			Reference Chapter	Cumulative
1.	UNIT-1 Packet-Switching Networks –1 From T1 Page No: 490 - 534	Introduction- Network services and internal network operations	11.5%	11.5%
2.		Packet networkTopology		
3.		Datagrams and Virtual Circuits		
4.		Datagrams and Virtual Circuits		
5.		Routing in packet networks		
6.		Routing in packet networks		
7.		Shortest-path routing: Bellman-Ford algorithm		
8.		Shortest-path routing: Bellman-Ford algorithm		
9.	UNIT-2 Packet-Switching Networks – 2 From T1 Page No: 539 - 561	Shortest-path routing(Continued)	11.5%	23%
10.		Traffic management at the packet level		
11.		Traffic management at the packet level		
12.		Traffic management at the flow level		
13.		Traffic management at the flow-level		
14.		Traffic management at the flow-aggregate level.		
15.	Traffic management at the flow-aggregate level.			
16.	UNIT-5 Applications,	Application Layer Overview, Domain Name System(DNS)	13.5%	36.5%

17.	Network Management, Security From T2 Page No: 225 - 265 And 269-270	Remote Login Protocols, Email, File Transfer and FTP		
18.		WWW and HTTP, Network management		
19.		Overview of network security, Overview of security methods		
20.		Secret-key encryption protocols,		
21.		Public key encryption protocols Authentication		
22.		Authentication and digital signature, Firewalls		
23.				
24.	UNIT- 8 Mobile Ad-Hoc Networks, Wireless sensor Networks From T2 Page No: 511-557, 559-560	Overview of wireless Ad-Hoc networks	11.5%	48%
25.		Routing in AdHoc networks		
26.		Routing protocols for adhoc networks, security of adhoc networks		
27.		Sensor networks and protocol structures		
28.		Communication energy model, Clustering protocols		
29.		Routing protocols; Zigbee technology and IEEE802.15.4		
30.				
31.	UNIT-3 TCP / IP – 1 From T1 Page No :573 - 602	The TCP / IP architecture	11.5%	59.5%
32.		The Internet protocol		
33.		The Internet protocol		
34.		IPv6		
35.		IPv6		
36.		User datagram protocol		
37.		User datagram protocol		
38.	UNIT-4 TCP/IP-2 From T1 Page No:602 – 700	Transmission control protocol	15.5%	75%
39.		Transmission control protocol		
40.		Internet routing protocols		
41.		Internet routing protocols		
42.		Internet routing protocols		
43.		Multicast routing		
44.		DHCP, NAT		
45.		Mobile IP		
46.	UNIT-6 QoS, VPNs, Tunneling, Overlay Networks From T2 Page No:316 –337, 431 – 446	Overview of QOS, Integrated services QOS	11.5%	86.5%
47.		Integrated services QOS		
48.		Differentiated services QOS		
49.		Virtual Private Networks		
50.		Multiprotocol Label switching		
51.		Overlay networks		

52.		Overlay networks		
53.	UNIT-7 Multimedia Networking From T2 Page No: 449 –470 479 – 497, 500-502	Overview of data compression; Digital voice and compression.	13.5%	100%
54.		JPEG, MPEG		
55.		Limits of compression with loss, Compression methods without loss		
56.		Overview of IP telephony		
57.		VoIP signaling protocols		
58.		Real-Time media transport protocols		
59.		Stream control transmission protocol(STCP)		
60.		Stream control transmission protocol(STCP)		

Text Books:

Book Type	Code	Title & Author	Publication Info		
			Edition	Publisher	Year
Text Book	T1	Communication Networks – Fundamental Concepts and Key architectures	2 nd Edition	Alberto Leon-Garcia and Indra Widjaja	2004
Text Book	T2	Computer and Communication Networks,	Pearson Education, 2007	Nadir F. Mir	2006

Reference Books:

1. Behrouz A. Forouzan: Data Communications and Networking, 4th Edition, Tata McGraw-Hill, 2006.
2. William Stallings: Data and Computer Communication, 8th Edition, Pearson Education, 2007.
3. Larry L. Peterson and Bruce S. David: Computer Networks – A Systems Approach, 4th Edition, Elsevier, 2007.
4. Wayne Tomasi: Introduction to Data Communications and Networking, Pearson Education, 2005.

