

MOHAMED SATHAK A J COLLEGE OF ENGINEERING

LESSON PLAN							
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING							
Name of the Subject	COMPUTER NETWORKS		Regulation	2017			
Subject Code	CS8591		Year / Sem	III/V			
Course Objective							
1.To understand the protocol layering and physical level communication.							
2.To analyze the performance of a network.							
3.To understand the various components required to build different networks.							
4.To learn the functions of network layer and the various routing protocols.							
5.To familiarize the functions and protocols of the Transport layer.							
Course Outcome							
Upon completion of the course, the students will be able to:							
1. Understand the basic layers and its functions in computer networks.							
2. Evaluate the performance of a network.							
3. Understand the basics of how data flows from one node to another.							
4. Analyze and design routing algorithms.							
5. Design protocols for various functions in the network.							
6. Understand the working of various application layer protocols.							
Sl. No.	Topic(s)	T / R* Book	Period s Required	Mode of Teaching (BB / PPT / NPTEL / MOOC / etc)	Blooms Level (L1-L6)	CO	PO
UNIT-I INTRODUCTION AND PHYSICAL LAYER							
1	Networks	T1	1	PPT	L1	CO1	PO1
2	Network Types	T1	1	BB	L2	CO1	PO1
3	Protocol Layering	T1	1	BB	L1	CO1	PO1-PO2
4	TCP/IP Protocol suite	T1	1	BB	L2	CO1	PO2
5	OSI Model	T1	1	PPT	L2	CO1	PO3
6	Physical Layer: Performance	T1	1	PPT	L2	CO1	PO1-PO3
7	Transmission media	T1	1	PPT	L2	CO1	PO1-PO3
8	Switching – Circuit-switched Networks	T1	1	PPT	L2	CO1	PO1-PO3
9	Packet Switching	T1	1	PPT	L2	CO1	PO1-PO3
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Planned if any							
Evaluation method : Assignment- MCQ							
UNIT II DATA-LINK LAYER & MEDIA ACCESS							
10	Link-Layer Addressing	T1	1	BB	L2	CO2	PO1-PO3
11	DLC Services/Protocols	T1	1	PPT	L2	CO2	PO1-PO3
12	HDLC	T1	1	BB	L3	CO2	PO1-PO3
13	PPP	T1	1	BB	L3	CO2	PO1-PO3
14	Media Access Control	T1	1	BB	L3	CO2	PO1-PO3
15	Wired LANs: Ethernet	T1	1	BB	L2	CO2	PO1-PO3
16	Wireless LANs	T1	1	PPT	L2	CO2	PO1-PO3
17	Introduction –IEEE 802.11, Bluetooth	T1	1	BB	L2	CO2	PO1-PO3
18	Connecting Devices	T1	1	BB	L2	CO2	PO1-PO3
Suggested Activity: Assignment / Case Studies / Tuorials/ Quiz / Mini Projects / Model Developed/others Planned if any							
Evaluation method : Assignment-MCQ							
UNIT III NETWORK LAYER							
19	Network Layer Services	T1	1	BB	L4	CO3	PO1-PO3
20	Packet switching – Performance	T1	1	PPT	L2	CO3	PO1-PO3
21	IPv4 Addresses	T1	1	BB	L2	CO3	PO1-PO3
22	Forwarding of IP Packets	T1, R1	1	PPT	L2	CO3	PO1-PO3
23	Network Layer Protocols: IP	T1, R1	1	BB	L2		PO1-PO3
24	ICMP v4	T1, R1	1	BB	L2		PO1-PO3
25	Unicast Routing Algorithms	T1, R1	1	BB	L2	CO3	PO1-PO3
26	Protocols – Multicasting Basics	T1, R1	2	BB	L2	CO3	PO1-PO3
27	IPv6 Addressing – IPV6 Protocol	T1,R1	1	BB	L4	CO3	PO1-PO3

Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Planned if any														
Evaluation method Assignment- ASSIGNMENT														
UNIT IV TRANSPORT LAYER														
28	Introduction				T1	1	BB	L1	CO4	PO1-PO3				
29	Transport Layer Protocols				T1	1	BB	L2	CO4	PO1-PO3				
30	Services				T1	1	BB	L2	CO4	PO1-PO3				
31	Port Numbers				T1	1	BB	L2	CO4	PO1-PO3				
32	User Datagram Protocol				T1	1	BB	L4	CO4	PO1-PO3				
33	Transmission Control Protocol				T1	1	BB	L2	CO4	PO1-PO3				
34	Transmission Control Protocol				T1	1	BB	L4	CO4	PO1-PO3				
35	SCTP				T1	1	BB	L4	CO4	PO1-PO3				
36	SCTP				T1	1	BB	L2	CO4	PO1-PO3				
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Planned if any														
Evaluation method : Assignment- Connection Management														
UNIT V APPLICATION LAYER														
37	Introduction													
38	WWW				T1	2	BB	L2	CO5	PO1-PO3				
39	HTTP				T1	1	BB	L2	CO5	PO1-PO3				
40	FTP				T1	1	BB	L2	CO5	PO1-PO3				
41	Email				T1	2	BB	L2	CO5	PO1-PO3				
42	Telnet				T1	1	BB	L2	CO5	PO1-PO3				
43	SSH				T1	1	BB	L4	CO5	PO1-PO3				
44	DNS						BB							
45	SNMP				T1, R1	1	BB	L2	CO5	PO1-PO3				
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Planned if any														
Evaluation method : Email service Protocols														
Content Beyond the Syllabus Planned														
1	Plan to give the assignment : 1.Wireless Router													
Text Books														
1	Behrouz A. Forouzan, Data Communications and Networking, Fifth Edition TMH, 2013.													
Reference Books														
1	Larry L. Peterson, Bruce S. Davie, Computer Networks: A Systems Approach, Fifth Edition, Morgan Kaufmann Publishers Inc., 2012.													
2	William Stallings, Data and Computer Communications, Tenth Edition, Pearson Education, 2013.													
3	Nader F. Mir, Computer and Communication Networks, Second Edition, Prentice Hall, 2014.													
4	Ying-Dar Lin, Ren-Hung Hwang and Fred Baker, Computer Networks: An Open Source Approach, McGraw Hill Publisher, 2011.													
6	James F. Kurose, Keith W. Ross, Computer Networking, A Top-Down Approach Featuring the Internet, Sixth Edition,													
Website / URL References														
1	https://www.geeksforgeeks.org/computer-networks-tutorials													
Blooms Level														
Level 1 (L1) : Remembering				Lower Order Thinking	Fixed Hour Exams	Level 4 (L4) : Analysing					Higher Order Thinkin g	Projects / Mini Projects		
Level 2 (L2) : Understanding						Level 5 (L5) : Evaluating								
Level 3 (L3) : Applying						Level 6 (L6) : Creating								
Mapping syllabus with Bloom's Taxonomy LOT and HOT														
Unit No	Unit Name				L1	L2	L3	L4	L5	L6	LOT	HOT	Total	
Unit 1	INTRODUCTION AND PHYSICAL				2	7	0	0	0	0	9	0	9	
Unit 2	DATA-LINK LAYER & MEDIA ACC				0	6	3	0	0	0	9	0	9	
Unit 3	NETWORK LAYER				0	5	0	4	0	0	5	4	9	
Unit 4	TRANSPORT LAYER				1	5	0	3	0	0	6	3	9	
Unit 5	APPLICATION LAYER				0	6	0	3	0	0	6	3	9	
Total					3	21	7	2	3	4	35	10	45	
Total Percentage					6.67	46.67	15.56	4.44	6.67	8.89	77.78	22.22	100	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	0	0	0	0	0	0	0	0	3	2
CO2	3	3	3	0	0	0	0	0	0	0	0	0	3	2
CO3	3	3	3	3	0	0	0	0	0	0	0	0	3	2
CO4	3	3	3	3	0	0	0	0	0	0	0	0	3	2
CO5	3	3	3	0	0	0	0	0	0	0	0	0	3	2
Avg	3	3	3	2	0	0	0	0	0	0	0	0	3	2
Justification for CO-PO mapping														
CO1	Basic knowledge to build network (Engg.Knowledge, Analysis,Design)													
CO2	Functions of Data link layer (Engg.Knowledge, Analysis,Design)													
CO3	Routing Algorithm(Engg.Knowledge, Analysis,Design)													
CO4	Functions of transport layer (Engg.Knowledge, Analysis,Design)													
CO5	Funtions of Application Layer (Engg.Knowledge, Analysis,Design)													
3		High level			2		Moderate level			1		Low level		
Name & Sign of Subject Expert : G.SIVARANJANI AP/ECE														
Head of the Department :														