SREE VIDYANIKETHAN ENGINEERING COLLEGE (Autonomous)

Sree Sainath Nagar, A. Rangampet-517 102

Department of Information Technology

Lesson Plan cum Dairy 2016-17

Name of the Subject: Computer Networks (14BT51201)

Name of the faculty Member: Mr. A. Srinivasulu & Mr. B. Bhaskar Kumar Rao

Class& Semester: III B.Tech – I Semester **Section: IT – A&B**

S. No.	Topic	No. of periods required	Book(s) followed	Self-Study
UNIT-I: INTRODUCTION AND PHYSICAL LAYER				
1.	Uses of Computer Networks	1	T1	Internet area network http://en.wikipedia.org/wiki/Internet_area_network
2.	Network Hardware	1	T1	
3.	Network Software	1	T1	
4.	Reference Models: OSI	1	T1,R1	
5.	TCP/IP	1	T1	
6.	Example Networks: Internet , 3G Mobile Phone Networks, 802.11	2	T1	
7.	Guided Transmission Media	1	T1,R1	
8.	Wireless Transmission	1	T1,R1	
Total of periods required:		**09**		
UNIT-II: DATA LINK LAYER AND MEDIUM ACCESS SUBLAYER				
9.	Design Issues	1	T1	Network Access Protection (Protocol verification) http://en.wikipedia.org/wiki/Network_Access_Protection
10.	Error Detection and correction – CRC	1	T1,R1	
11.	Hamming codes	1	T1, R1	
12.	Elementary Data link protocols	1	T1	
13.	Sliding window protocols	1	T1	
14.	Channel Allocation problem	1	T1	
15.	Multiple access protocols: ALOHA, CSMA,CSMA/CD protocols	1	T1	
16.	Collision free protocol, Limited contention protocol	1	T1	
17.	Ethernet	1	T1	
18.	DLL Switching	1	T1	
Total of periods required:		**10**		
UNIT-III: NETWORK LAYER				
19.	Network layer Design Issues	1	T1	Link-state routing protocol http://en.wikipedia.org/wiki/Link_state_routing_protocol
20.	Routing Algorithms: shortest Path, flooding	2	T1	
21.	Distance vector. Hierarchal, Broadcast, multicast, Any Cast	2	T1	
22.	Congestion Control algorithms	2	T1	
23.	Quality of Service	1		
24.	Internetworking	1	T1	
25.	The Network Layer in the Internet	1	T1	
Total of periods required:		**10**		

UNIT-IV TRANSPORT LAYER				
26.	Transport Services	2	T1	Stream Control Transmission Protocol http://en.wikipedia.org/wiki/Stream_Control_Transmission_Protocol
27.	Elements of transport protocol	2	T1	
28.	Internet Transport layer protocols: UDP – Introduction to UDP, Remote Procedure Call, Real Time Transport Protocol	2	T1	
29.	Internet Transport layer protocols: TCP - Introduction to TCP, The TCP Service Model, The TCP Protocol, The TCP Segment Header, TCP Connection Establishment, TCP Connection Release, TCP Connection Management Modeling, TCP Sliding Window, TCP Timer Management, TCP Congestion Control, The Future of TCP	2	T1	
Total of periods required:		**08**		
UNIT-V: APPLICATION LAYER AND NETWORK SECURITY				
30.	The Domain name system	2	T1	Digital signature (Network Security) http://en.wikipedia.org/wiki/Digital_signature
31.	Electronic Mail	2	T1	
32.	World wide web: Architectural Overview, Dynamic Web Document, HTTP	2	T1	
33.	Introduction to Cryptography: Substitution Techniques, Transportation Techniques, One-Time Pads	2	T1	
Total of periods required:		**08**		
Grand total of periods required:		**45**		

TEXT BOOK:

T1. Andrew S. Tanenbaum and David J. Wetherall, **"Computer Networks",** Pearson Education, 5th edition, 2012.

REFERENCE BOOKS:

R1. Behrouz A. Forouzan, **"Data communication and Networking",** Tata McGraw-Hill, 4th edition, 2006.

R2. James F. Kurose and Keith W. Ross, **"Computer Networking A Top-Down Approach Featuring the Internet",** Pearson Education, 2nd edition, 2003.