PVP 23

PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY

(Autonomous)
Kanuru, Vijayawada-520007

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (AI&ML)

III B Tech – I Semester

Computer Networks Lab

Course Code	23AM3552	**Year**	III	**Semester**	I
Course Category	PCC Lab	**Branch**	CSE (AI&ML)	**Course Type**	Practical
Credits	1.5	**L-T-P**	0-0-3	**Prerequisites**	-
Continuous Internal Evaluation	30	**Semester End Evaluation**	70	**Total Marks:**	100

Course Outcomes		
Upon Successful completion of course, the student will be able to		
CO1	Demonstrate experimental procedures through oral communication and submit comprehensive documentation reports.	**L2**
CO2	Apply network commands, IP configurations, and routing techniques using tools to establish and test network communication.	**L3**
CO3	Analyze network traffic and routing behavior to troubleshoot connectivity and validate protocol performance.	**L4**
CO4	Evaluate network topologies using VLAN, ACL, STP, NAT, and WLAN for secure and optimized communication.	**L5**

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations **(3: Substantial, 2: Moderate, 1: Slight)**

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
CO1	2								2				
CO2	3				3								
CO3		3									2		
CO4				3							2		

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Syllabus		
Unit No.	**CONTENTS**	**Mapped CO**
1.	Experiment with the basic network commands Like Ping, IPCONFIG, and Tracert in real networks.	CO1, CO2, CO3, CO4
2.	Analyze Network Traffic Using **Wireshark tool**/ TCP dump tool	CO1, CO2, CO3, CO4
3.	Demonstrate Static Routing on **Packet Tracer**. (Network-1)	CO1, CO2, CO3, CO4
4.	Demonstrate Dynamic Routing on Packet Tracer. (Network- Sample)	CO1, CO2, CO3, CO4
5.	Experiment with configuration of Host IP, Subnet Mask and default Gateway of a device in LAN and establish Peer to Peer network connection.	CO1, CO2, CO3, CO4
6.	Demonstrate Static and Dynamic Addressing Mechanisms.	CO1, CO2, CO3, CO4
7.	Demonstrate Dynamic Addressing (DHCP) Mechanism on Packet Tracer.(Network- Sample)	CO1, CO2, CO3, CO4
8.	Demonstrate Network Address Translation (NAT) on Packet Tracer.(Network- Sample)	CO1, CO2, CO3, CO4
9.	Show the working of Application Layer Protocols - FTP, DNS, Telnet, HTTP.	CO1, CO2, CO3, CO4
10.	Implement STP (Spanning tree protocol) for a given network.	CO1, CO2, CO3, CO4
11.	Implement ACL (Access Control Lists) for a given network.	CO1, CO2, CO3, CO4
12.	Implement WLAN for a given network.	CO1, CO2, CO3, CO4
13.	Connecting devices and links for given scenario.	CO1, CO2, CO3, CO4
14.	Implement VLAN for the given configuration.	CO1, CO2, CO3, CO4
15.	Implement Inter VLAN for the given configuration.	CO1, CO2, CO3, CO4

Learning Resources
Text Books
1. Data Communications and Networking, Behrouz A. Forouzan, 5th Edition, 2013, Tata McGraw-Hill Education.
References
1. Computer Networking A Top-Down Approach, James F. Kurose, Keith W. Ross, Sixth Edition, Pearson Education 2. Computer Networks - A Systems Approach, Larry L. Peterson, Bruce S. Davie, Fifth Edition, Morgan Kaufmann.