

**PRASADV.POTLURISIDDHARTHAINSTITUTE OF TECHNOLOGY**

(Autonomous)

Kanuru, Vijayawada-520007

**DEPARTMENT OF INFORMATION TECHNOLOGY****III B Tech – I Semester****Computer Networks Lab**

<b>Course Code</b>	23IT3552	<b>Year</b>	III	<b>Semester</b>	I
<b>Course Category</b>	Professional Core	<b>Branch</b>	IT	<b>Course Type</b>	Lab
<b>Credits</b>	1.5	<b>L-T-P</b>	0-0-3	<b>Prerequisites</b>	-
<b>Continuous Internal Evaluation</b>	30	<b>Semester End Evaluation</b>	70	<b>Total Marks:</b>	100

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

<b>Syllabus</b>		
<b>Unit No.</b>	<b>CONTENTS</b>	<b>Mapped CO</b>
1.	Experiment with the basic network commands Like Ping, IPCONFIG, and Tracert in real networks.	CO1, CO2, CO3, CO4
2.	Analyze Network Traffic Using <b>Wireshark tool</b> / TCP dump tool	CO1, CO2, CO3, CO4
3.	Demonstrate Static Routing on <b>Packet Tracer</b> . (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

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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.