

Computer Networks Lab

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|------------------------------|----------|---------------------|-------|----------------------|-----------|
| Course Code | 20CS3552 | Year | III | Semester | I |
| Course Category | PCC | Branch | CSE | Course Type | Practical |
| Credits | 1.5 | L-T-P | 0-0-3 | Prerequisites | - |
| Continuous Evaluation | 15 | Semester End | 35 | Total Marks: | 50 |

Course Outcomes

Upon successful completion of the course, the student will be able to

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|------------|---|-----------|
| CO1 | Demonstrate the commands and configuration of Networking in various environment _s | L3 |
| CO2 | Analyze the Behaviour and performance of network using network monitoring tools | L3 |
| CO3 | Develop an effective report based on various Functionalities of layers in TCP/IP | L3 |
| CO4 | Apply technical knowledge for a given scenario and express with an effective oral communication | L3 |
| CO5 | Analyze the outputs and visualizations generated for different scenarios | L4 |

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | | | | | | | | | | | | | √ | |
| CO2 | | | | | √ | | | | √ | | | | | |
| CO3 | | | | | | | | | | √ | | | | |
| CO4 | √ | | | | | | | | | √ | | | | |
| CO5 | | | √ | | | | | | | | | | | |

| Syllabus | | Mapped CO |
|-----------------|--|-------------------------|
| Exp No. | Contents | |
| 1 | Identify different types of Network devices/cables and practically implement the cross-wired cable and straight through cable using crimping tool. | CO1, CO2, CO3, CO4, CO5 |
| 2 | Demonstrate connectivity of wired & wireless devices in Local Area Network using Hub, Switch and Router. | CO1, CO2, CO3, CO4, CO5 |
| 3 | Experiment with the basic network commands like Ping, IPCONFIG, and Tracert in real networks. | CO1, CO2, CO3, CO4, CO5 |
| 4 | Analyze Network Traffic Using Wireshark tool/ TCP dump tool | CO1, CO2, CO3, CO4, CO5 |
| 5 | Implement Framing Mechanism using any Programming Language. | CO1, CO2, CO3, CO4, CO5 |
| 6 | Implement Error Detection technique using any Programming Language. | CO1, CO2, CO3, CO4, CO5 |
| 7 | 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, CO5 |
| 8 | Demonstrate Static and Dynamic Addressing Mechanisms. | CO1, CO2, CO3, CO4, CO5 |
| 9 | Implement Unicast Routing Algorithm using any Programming Language | CO1, CO2, CO3, CO4, CO5 |
| 10 | Demonstrate Network Address Translation (NAT) | CO1, CO2, CO3, CO4, CO5 |
| 11 | Show the working of Application Layer Protocols - FTP, DNS, Telnet | CO1, CO2, CO3, CO4, CO5 |
| 12 | Case Study: Analyze Design and build a Network for an organization using Network Simulation Tool. | CO1,CO2,CO3,CO4,CO5 |

Learning Resources

Text Books

1. Data Communications and Networking, Behrouz A. Forouzan, Fifth Edition, McGrawHill

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.

