

**SES's L.S. RAHEJA COLLEGE OF ARTS AND COMMERCE
(AUTONOMOUS)**



BOARD OF STUDIES: Information Technology and Data Science

Programme: B.Sc. (Cyber Security & Digital Forensics)

Semester: I

Nomenclature of the Course: Basics of Computer Networks Lab

NEP Vertical: Major

Credit: 01

Total Marks: 25

Academic Year: 2026–27

(As per Choice Based Credit System under NEP 2020)



Practical Component

List of Practical

1. Study of Networking Devices
 - Identification of Hub, Switch, Router, NIC, Access Point
2. Network Configuration
 - Checking IP Address using ipconfig / ifconfig
 - Understanding MAC address
3. IP Addressing Practice
 - Identify Class of IP Address
 - Calculate Network ID and Host ID
4. Basic Subnetting Exercise
 - Calculate subnet mask
 - Determine number of hosts per subnet
5. Network Connectivity Testing
 - Use of ping command
 - Use of tracert / traceroute
6. DNS and Network Utilities
 - Use of nslookup
 - Use of netstat
7. Packet Analysis (Basic Introduction)
 - Introduction to Wireshark interface
 - Capture simple HTTP request
8. Configuration of Local Area Network (Simulation)
 - LAN setup using Packet Tracer (Basic topology)
9. Study of OSI Model Using Simulation Tool
 - Observe data encapsulation process
10. Basic Firewall Configuration (Conceptual Demo)
 - Enable/Disable Windows Firewall
 - Observe network behavior

Learning Objectives

1. To configure and test network connectivity.
2. To practice IP addressing and subnetting.
3. To use basic networking commands.
4. To understand packet flow using network tools.

Course Outcomes (CO)

CO No.	Course Outcome	Bloom's Level
CO1	Configure basic network settings	Apply (L3)
CO2	Perform IP addressing and subnetting calculations	Apply (L3)
CO3	Use network diagnostic tools effectively	Apply (L3)
CO4	Analyze captured network packets	Analyze (L4)

Evaluation Scheme

Component	Marks
Journal	5
Viva Voce	5
Practical Examination	15
Total	25