Write up format for CNSL Assignment No.1 & 2

|  |  |
| --- | --- |
| Assignment No. A1 | |
| Experiment Name | |
| Instructor's Name- Prof. B. P. Masram | Student's Name- Ayush Chanekar |
| Student's Roll no- 31311 | Date of Experiment- 19/08/24 |
| Objectives – To Learn and understand OSI Model, |  |
| Equipment and Software-   * List of hardware and software used in the experiment. * Hardware (e.g., routers, switches, cables) * Software (e.g., Wireshark, Cisco Packet Tracer, specific network simulation tools) | |
| **Theory/Background**   * Introduction to the concepts and technologies involved in the experiment * Relevant formulas, diagrams, and theoretical explanations. * Explanation of Network devices (Switch, Hub, Router, Cables etc)   **Network Topology**   * Detailed diagram of the network setup. * Explanation of the topology used (e.g., star, ring, mesh). | |
| **Procedure**   * Step-by-step instructions on how the experiment was conducted. * Configuration settings (e.g., IP addresses, subnet masks). * Commands used (if applicable). | |
| **Observations and Results**   * Screenshots or outputs from the software/tools used. * Tables, charts, or graphs representing the data collected. * Description of what was observed during the experiment. | |
| **Analysis**   * Interpretation of the results. * Comparison with expected results. * Possible reasons for any discrepancies. | |
| **Conclusion**   * Summary of what was learned from the experiment. * Assessment of whether the objectives were met. * Suggestions for improvement or further study. | |
| **References**   * Citations of any sources used (books, research papers, online resources). | |
|  | |

### Computer Network Laboratory Write-Up Format

#### 1. Title Page

- \*\* \*\*

- \*\*Course Name and Code\*\*

- \*\*Lab Session Number\*\*

- \*\*Instructor's Name\*\*

- \*\*Student's Name\*\*

- \*\*Student's ID\*\*

- \*\*Date of Experiment\*\*

#### 2. Objective

- \*\*Brief description of the experiment's goals.\*\*

#### 3. Theory/Background

- \*\*Introduction to the concepts and technologies involved in the experiment.\*\*

- \*\*Relevant formulas, diagrams, and theoretical explanations.\*\*

#### 4. Equipment and Software

- \*\*List of hardware and software used in the experiment.\*\*

- Hardware (e.g., routers, switches, cables)

- Software (e.g., Wireshark, Cisco Packet Tracer, specific network simulation tools)

#### 5. Network Topology

- \*\*Detailed diagram of the network setup.\*\*

- \*\*Explanation of the topology used (e.g., star, ring, mesh).\*\*

#### 6. Procedure

- \*\*Step-by-step instructions on how the experiment was conducted.\*\*

- \*\*Configuration settings (e.g., IP addresses, subnet masks).\*\*

- \*\*Commands used (if applicable).\*\*

#### 7. Observations and Results

- \*\*Screenshots or outputs from the software/tools used.\*\*

- \*\*Tables, charts, or graphs representing the data collected.\*\*

- \*\*Description of what was observed during the experiment.\*\*

#### 8. Analysis

- \*\*Interpretation of the results.\*\*

- \*\*Comparison with expected results.\*\*

- \*\*Possible reasons for any discrepancies.\*\*

#### 10. References

- \*\*Citations of any sources used (books, research papers, online resources).\*\*

#### 11. Appendices

- \*\*Additional information that supports the main sections (e.g., code snippets, raw data).\*\*

### Example Outline

#### Title Page

- \*\*Experiment 1: Basic Network Configuration\*\*

- \*\*Course: Computer Networks (CS1234)\*\*

- \*\*Lab Session: 1\*\*

- \*\*Instructor: Dr. John Doe\*\*

- \*\*Student: Jane Smith\*\*

- \*\*Student ID: 123456\*\*

- \*\*Date: January 15, 2024\*\*

#### Objective

The objective of this experiment is to set up a basic network using routers and switches and to configure IP addresses on each device.

#### Theory/Background

A computer network is a set of interconnected devices that communicate with each other. The fundamental components of a network include routers, switches, and hosts. IP addressing is crucial for network communication.

#### Equipment and Software

- \*\*Hardware:\*\* 2 Routers, 2 Switches, 4 PCs, Ethernet Cables

- \*\*Software:\*\* Cisco Packet Tracer

#### Network Topology

![Network Topology Diagram](path/to/diagram)

#### Procedure

1. Connect the devices according to the network topology diagram.

2. Configure the IP addresses on each router and PC.

- Router 1: `192.168.1.1`

- Router 2: `192.168.2.1`

- PC1: `192.168.1.2`, Subnet Mask: `255.255.255.0`, Gateway: `192.168.1.1`

- PC2: `192.168.2.2`, Subnet Mask: `255.255.255.0`, Gateway: `192.168.2.1`

3. Verify the configuration by pinging between devices.

#### Observations and Results

- \*\*Ping Results:\*\*

- PC1 to PC2: Successful

- Router 1 to Router 2: Successful

#### Analysis

The successful ping results indicate that the network was configured correctly and that the devices are able to communicate with each other.

#### Conclusion

The experiment demonstrated the basic setup and configuration of a network. The objectives were met as the devices communicated successfully.

#### References

- \*\*Cisco Networking Academy. "Introduction to Networks."\*\*

- \*\*Stallings, William. "Data and Computer Communications."\*\*

#### Appendices

- \*\*Appendix A: Command Output\*\*

```plaintext

Router# show ip interface brief

Interface IP-Address OK? Method Status Protocol

FastEthernet0/0 192.168.1.1 YES manual up up

FastEthernet0/1 unassigned YES unset administratively down down

```

Feel free to customize this template based on the specific requirements of your laboratory work and guidelines provided by your instructor.