

Laboratory Activity Sheet

Module: 6 – OSPF (Open Shortest Path First)

Activity Title: Understanding OSPF Through Real-Life Scenarios

Learning Objectives

- Understand the difference between static and dynamic routing.
- Identify how OSPF chooses the best path.
- Practice converting subnet masks to wildcard masks.
- Explain OSPF's importance in real networks.

Activity

Scenario 1 – Static vs Dynamic Routing

A school has 2 routers. The IT staff manually sets the routes. Later, the school expands to 15 routers.

1. Which routing method is easier for 2 routers? _____
2. Which routing method is better for 15 routers? Why? _____

Scenario 2 – Hop Count vs Cost

The city sets up two paths: - Path A: 3 routers (slower links, 10 Mbps each) - Path B: 1 direct router (faster link, 1 Gbps)

1. Which path would RIP (hop count) choose? _____
2. Which path would OSPF (cost) choose? Why? _____

Scenario 3 – Wildcard Mask

The network uses 192.168.1.0/24.

1. What is the wildcard mask of 255.255.255.0? _____
2. Why does OSPF use wildcard masks? _____

Scenario 4 – Link Failure

A company has 3 branches: Quezon City, Makati, Cavite. The Quezon City–Cavite link goes down.

1. What will OSPF do? _____
2. If static routing was used, what would the IT staff need to do? _____

Output

Answer the questions in complete sentences.