Lab Exam Exercise

(RA2211026050069)

Objective:

Set up and configure a network topology using RIP and OSPF routing protocols in Cisco Packet

Tracer. Customize the network by assigning each computer a name and an IP address using the

last three digits of your roll number.

Procedure:

1. Network Topology Design:

○ Create a topology that includes:

■ 10-12computers distributed across two LANs.

■ Use two or more switches.

■ At least two routers connected via a WAN link.

○ Each computer must be assigned a name with the format: PC_RollNumber (e.g.,

PC_123).

2. IP Address Configuration:

○ Assign IP addresses to the computers in each LAN.

○ The last three digits of each student's roll number must be used for the last octet

of the computer's IP address (e.g., 192.168.1. RollNumber).

○ Use a different subnet for each LAN (e.g., 192.168.1.0/24 for LAN 1 and

192.168.2.0/24 for LAN 2).

3. Routing Protocols Configuration:

○ Configure one router with RIP v1.

○ Configure the other router with OSPF.

○ Ensure communication between LANs using these protocols.

4. Packet Tracer Configuration Steps:

○ Add devices and create connections between them.

○ Configure IP addresses on the computers, switches, and routers.

○ Setup static routes or enable RIP/OSPF on the routers.

○ Ensure correct routing between the two LANs and that data can be transmitted

between networks.

5. Simulation:

○ Use Cisco Packet Tracer's simulation mode to test message transmission.

○ Ensure a message can be successfully transmitted from one network to another.

6. Documentation and Submission:

○ Procedure Documentation: Create a step-by-step procedure that includes:

■ Network design.

■ IP address assignment.

■ Routing protocol configuration.

○ Screenshots: Capture the topology and successful message transmission.

○ Packet Tracer File: Save the .pkt file with your completed configuration.

○ GitHub Submission: Upload all files (procedure document, screenshots, and .pkt

file) to a GitHub repository named with Lab 2 exam.

○ Submit the repository link to the instructor.

Output Screenshots:
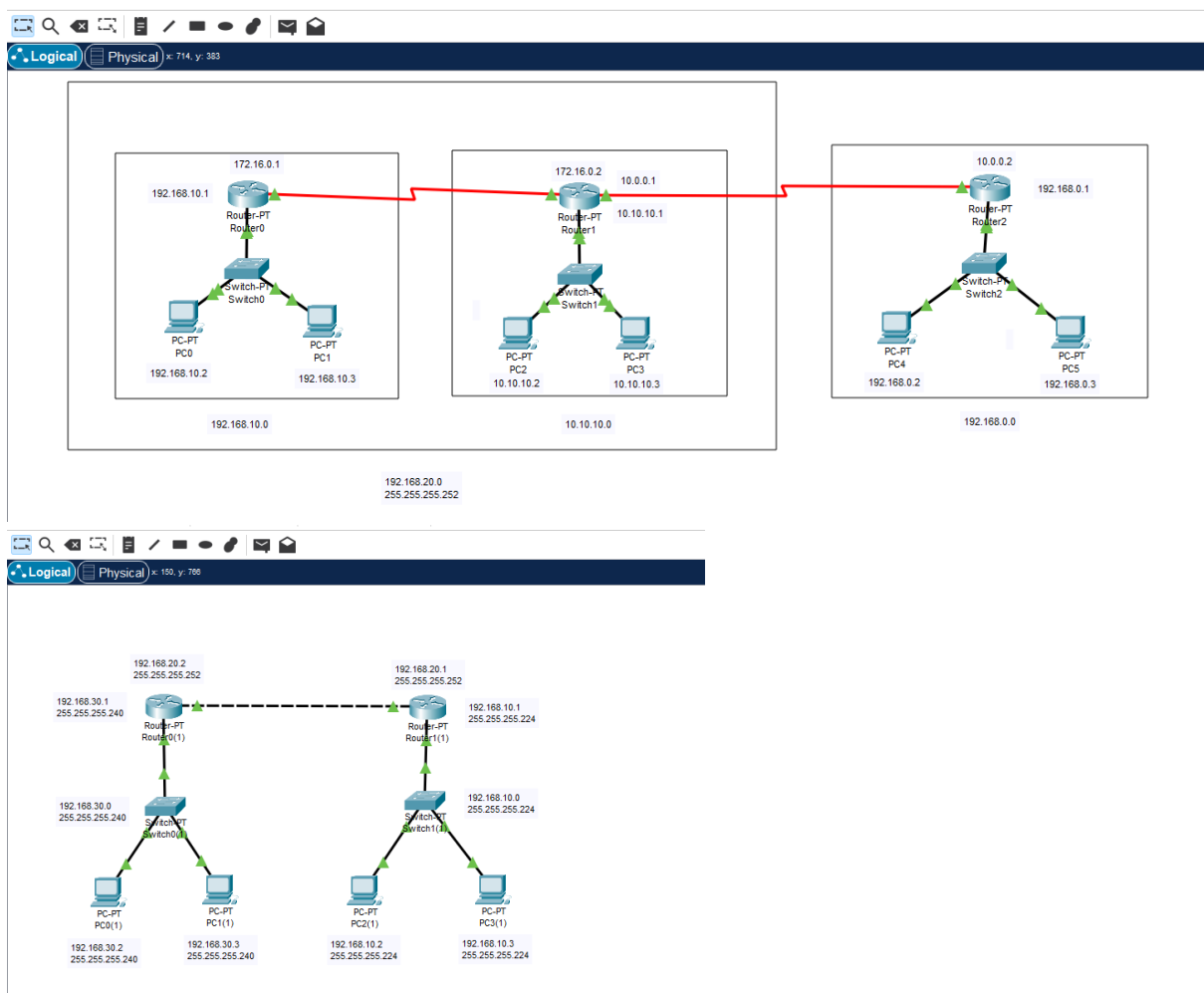
Results:

- Successfully configured a network topology with two LANs using RIP and OSPF routing protocols.
- All devices were assigned IP addresses based on the last three digits of the roll number, maintaining the required subnet structure.
- Routing protocols were configured on the routers, allowing seamless communication between LAN 1 and LAN 2.
- The simulation mode in Cisco Packet Tracer demonstrated successful packet transmission across the network.
- Documentation and files were submitted as per the requirements.

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