

# Experiment 7

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ASSIGNMENT-7

1. Explain the difference between static routing and dynamic routing.

→ Static Routing  
(i) Manually configured by a network administrator.

(ii) No extra CPU or bandwidth usage for route updates.

(iii) Small, stable networks where routes don't change often.

(iv) Does not adapt to network changes unless manually updated.

Dynamic Routing  
(i) Automatically updates routing tables using routing protocols.

(ii) Consumes CPU and bandwidth due to routing protocol updates.

(iii) Large, complex networks with frequent topology changes.

(iv) Adapts automatically to network changes.

2. Why is crossover cable used for router-to-router connections, while a straight-through cable is used for PC-to-switch connections?

→ Crossover cable:

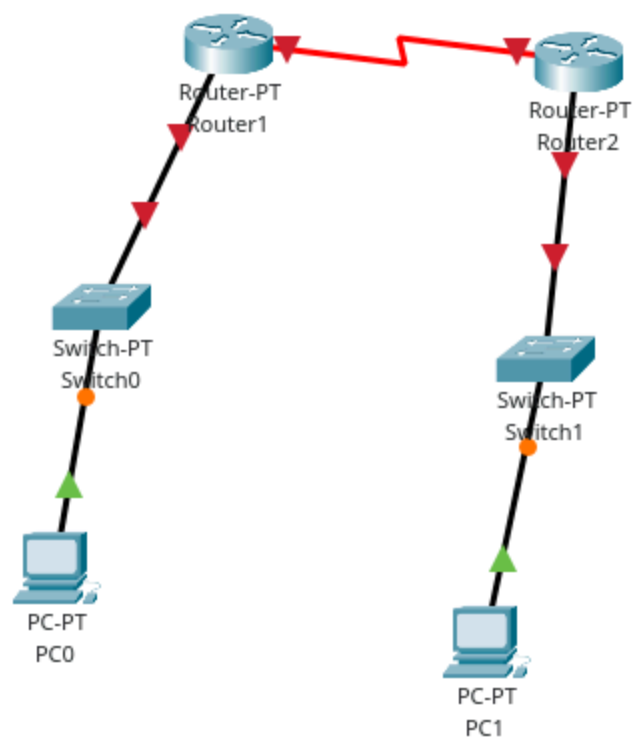
→ used when connecting two similar devices (e.g. router-to-router, switch-to-switch)

→ It swaps the transmission (TX) and reception (RX) wires so that the sending end of one device connects to the receiving end of other.



- Straight-Through cable:-
  - used when connecting different devices like PC-to-switch, PC-to-router etc.
  - ensures proper communication without the need for signal crossover.
- 3. Describe the role of a default gateway in inter-network communication.
  - A default gateway is a router that acts as an access point for a local network to communicate with external such as Internet.
  - when an device wants to send data to be destination outside its subnet, it forwards the packet to the default gateway.
  - It then determines the best route to forward the packet to its final destination.

# Question 1



# Question 2

