

Name _____ Date _____

Module 15 – IP Static Routing

Switching, Routing, and Wireless Essentials – Semester 2

StudentVersion

Module 15 Sections:

- 15.0 Introduction
- 15.1 Static Routes
- 15.2 Configure IP Static Routes
- 15.3 Configure IP Default Static Routes
- 15.4 Configure Floating Static Routes
- 15.5 Configure Static Host Routes
- 15.6 Module Practice and Quiz

Required Materials:

Reading Organizer

Packet Tracer Activities: 15.6.1 - Configure IPv4 and IPv6 Static and Default Routes

Labs: 15.6.2 - Configure IPv4 and IPv6 Static and Default Routes

Module's 14 - 16 Exam

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Name _____ Date _____

Module 15 – IP Static Routing

Reading Organizer

Instructor Version

Note: The Reading Organizer has weighted scoring. Any question with the word **explain, define, or describe** in it is expected to have a longer answer and is worth two points each.

After completion of this module, you should be able to:

- Describe the command syntax for static routes.
- Configure IPv4 and IPv6 static routes.
- Configure IPv4 and IPv6 default static routes.
- Configure a floating static route to provide a backup connection.
- Configure IPv4 and IPv6 static host routes that direct traffic to a specific host.

15.1 Static Routes

1. Static routes can be configured for IPv4 and IPv6. List the four types of static routes both protocols support.

- a.
- b.
- c.
- d.

2. When configuring a static route, the next hop can be identified three ways. List the three ways the next hop can be identified.

- a.
- b.
- c.

3. The _____ global configuration command must be configured to enable the router to forward IPv6 packets.

15.2 Configure IP Static Routes

4. Using a _____ address is generally recommended.

5. Directly connected static routes should only be used with point-to-point serial interfaces

6. In a fully specified static route, both the _____ and the _____ IP address are specified.

7. Explain the difference between an Ethernet multi-access network and a point-to-point serial network.

8. Explain why a fully specified static route must be used with an IPv6 link-local address.

9. List three commands that can be used to verify static routes. (There are more than 3 listed.)

a.

b.

c.

10. What is a static route?

15.3 Configure IP Default Static Routes

11. When creating an IPv4 static route the destination address and subnet mask are represented as 0.0.0.0 0.0.0.0 What address will this match?

12. When creating an IPv6 default static route what ipv6-prefix/prefix-length matches all routes?

13. What does an asterisk (*) next to the route with code 'S' in an IP route output indicate?

14. What does a /0 mask or ::/0 prefix indicate?

15.4 Configure Floating Static Routes

15. Explain what a floating static route?

16. When is a floating static route used?

17. To create a floating static route it is configured with a higher _____ than the primary route.

18. By default, static routes have an administrative distance of _____, making them preferable to routes learned from dynamic routing protocols.

19. IP floating static routes are configured by using the _____ argument to specify an administrative distance.

20. If no administrative distance is configured on a static route, the default value (_____) is used.

21. What is the administrative distance that has been added to the following route table entry?

```
R1(config)# ip route 0.0.0.0 0.0.0.0 10.10.10.2 5
```

22. Use the _____ command to verify that floating static routes are in the configuration.

15.5 Configure Static Host Routes

23. Describe three ways a host route can be added to the routing table.

a.

b.

c.

24. When does the Cisco IOS automatically install a host route, also known as a local host route?

25. A host route can be a manually configured _____ route to direct traffic to a specific destination device, such as the server.