

Name _____ Date _____

Module 9 - FHRP Concepts

Switching, Routing, and Wireless Essentials – Semester 2

Student Version

Module 9 Sections:

- 9.0 Introduction
- 9.1 First Hop Redundancy Protocols
- 9.2 HSRP
- 9.3 Module Practice and Quiz

Required Materials:

Reading Organizer

Packet Tracer Activities: 9.3.3 - HSRP Configuration Guide

Labs: None

Module's 7 - 9 Exam

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Name _____ Date _____

Module 9 - FHRP Concepts

Reading Organizer

Student 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:

- Explain the purpose and operation of first hop redundancy protocols.
- Explain how HSRP operates.

9.1 First Hop Redundancy Protocols

1. What happens if a router or router interface (that serves as a default gateway) fails?
2. Explain what a first hop redundancy protocols (FHRPs) mechanism provides?
3. In practice, it is common for a _____ to act as the default gateway for each VLAN in a switched network.
4. Explain in detail why FHRP is not as critical an issue for IPv6 devices.
5. What is one way to prevent a single point of failure at the default gateway?
6. By sharing an _____ and a _____, two or more routers can act as a single virtual router.

7. The ability of a network to dynamically recover from the failure of a device acting as a default gateway is known as what?

8. Describe the three steps that take place when the active router fails.

Step 1 –

Step 2 -

Step 3 –

9. List and fully describe the different FHRP options.

a. _____ –

b. _____ –

c. _____ –

d. _____ -

e. _____ -

f. _____ -

g. _____ -

9.2 HSRP

10. _____ is a Cisco-proprietary FHRP that is designed to allow for transparent failover of a first-hop IP device.

11. The role of the active and standby routers is determined during the HSRP _____ process.

12. By default, how does HSRP elect its active router?

13. If HSRP priority is used instead of the IP address what determines the active router?

14. What is the default HSRP priority number?

15. If the priorities are equal, how does the router elect the active router?

16. What command can you use to manually configure a router to be the active router?

17. By default, after a router becomes the active router, what happens if another router comes online with a higher HSRP priority?

18. How can you force a new HSRP election process to take place when a higher priority router comes online?

19. What does preemption do?

20. What happens if a router is enabled for preemption, with equal priority but a higher IPv4 address?

21. A router can either be the _____ HSRP router responsible for forwarding traffic for the segment, or it can be a _____ HSRP router on standby, ready to assume the active role if the active router fails.

22. List and describe the HSRP states.

a. _____ –

b. _____ –

c. _____ –

d. _____ –

e. _____ –