

Name _____ Date _____

Module 6 - Etherchannel

Switching, Routing, and Wireless Essentials – Semester 2

Student Version

Module 6 Sections:

- 6.0 Introduction
- 6.1 EtherChannel Operation
- 6.2 Configure EtherChannel.
- 6.3 Verify and Troubleshoot EtherChannel
- 6.4 Module Practice and Quiz

Required Materials:

Reading Organizer

Packet Tracer Activities: 6.2.4 - Configure EtherChannel
 6.3.4 - Troubleshoot EtherChannel
 6.4.1 - Implement Etherchannel

Labs: 6.4.2 - Implement Etherchannel

Module's 5 - 6 Exam

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Name _____ Date _____

Module 6 - Etherchannel

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 chapter, you should be able to:

- Describe EtherChannel technology.
- Configure EtherChannel.
- Troubleshoot EtherChannel.

6.1 EtherChannel Operation

1. Explain why a link aggregation technology or EtherChannel is needed.
2. EtherChannel is a link aggregation technology that groups multiple physical Ethernet links together into one single logical link. List what it is used to provide.
 - a.
 - b.
 - c.
 - d.
3. Explain what does EtherChannel technology make possible?
4. When an EtherChannel is configured what is the resulting virtual interface called?

5. Explain in detail the many advantages EtherChannel technology has to offer.

a.

b.

c.

d.

e.

6. EtherChannel has certain implementation restrictions, explain each.

a.

b.

c.

d.

e.

7. EtherChannels can be formed through negotiation using one of two protocols. Write out the two protocol names?

a.

b.

8. When enabled, _____ also manages the EtherChannel.

9. PAgP packets are sent every _____ seconds.

10. PAgP checks for configuration consistency and manages link _____ and _____ between two switches. It ensures that when an EtherChannel is created, all ports have the same type of configuration.

11. In EtherChannel, it is mandatory that all ports have the same _____, _____, and _____ information.

12. List and describe the three modes for PAgP.

a. _____ –

b. _____ –

c. _____ –

13. If there is no negotiation between the two switches what does this indicate? Explain.

14. _____ is part of an IEEE specification (802.3ad) that allows several physical ports to be bundled to form a single logical channel.

15. LACP is an IEEE standard. Explain what this means.

16. List and explain the modes for LACP.

a. _____ –

b. _____ –

c. _____ –

17. LACP allows for _____ active links, and also _____ standby links. A standby link will become active should one of the current active links fail.

6.2 Configure EtherChannel

18. Fully explain the following guidelines and restrictions that are useful for configuring EtherChannel. EtherChannel support - All Ethernet interfaces must support EtherChannel with no requirement that interfaces be physically contiguous.

a. Speed and duplex –

b. VLAN match –

c. Range of VLANs –

19. Explain why if EtherChannel settings must be changed they must be configured in port channel interface configuration mode.

20. EtherChannel is _____ by default and must be _____.

21. Explain the three steps required to configure EtherChannel with LACP.

Step 1.

Step 2.

Step 3.

6.3 Verify and Troubleshoot EtherChannel

22. Which command displays the general status of the port channel interface? (Hint: Click on the buttons)

23. When several port channel interfaces are configured on the same device, use the _____ command to display one line of information per port channel.

24. Which command do you use to display information about a specific port channel interface?

25. What does the show interfaces etherchannel command provide?

26. List what all interfaces within an EtherChannel must have.

- a.
- b.
- c.

27. Explain the Common EtherChannel issues include the following:

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

28. Why is it is easy to confuse PAgP or LACP with DTP?