Exam Report: 4.2.4 Practice Questions

Date: 9/24/2019 5:29:00 pm
Time Spent: 6:59

Candidate: Garsteck, Matthew
Login: mGarsteck

Overall Performance

Your Score: 87%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Correct

What is the minimum cable specification that supports 1000 Mbps Ethernet?

- Cat 3
- Cat 4
- Cat 5
- Cat 5e
- Cat 6
- Cat 7

Explanation

1000 Mbps Ethernet (Gigabit Ethernet) requires at least Cat 5e cables.

Cat 3 and Cat 4 only support 10 Mbps Ethernet. Cat 5 cable only supports up to 100 Mbps. Cat 6 or Cat 7 is required for bandwidth up to 10 Gbps Ethernet.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP09_2-1 #1]

Question 2: Incorrect

You want to implement an Ethernet network at very long distances using fiber optic cables. Which standard and cable type would you choose? (Select two.)

- [x] 1000BaseLX
- [ ] Muti-mode fiber
- [x] Single-mode fiber
- [ ] 1000BaseCX
- [ ] 1000BaseSX

Explanation

Of the standards listed in this question, 1000BaseLX provides the greatest cable length (think of the "L" in 1000BaseLX as "long"). When using fiber optic across long distances, use single-mode fiber.

Multi-mode fiber is cheaper, but has a shorter maximum distance than single-mode fiber. 1000BaseSX is for short fiber optic, and 1000BaseCX uses short copper within a wiring closet.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP09_2-6 #2]

Question 3: Correct

Ethernet 100BaseFX networks use what type of cabling?

- Unshielded twisted pair
- Shielded twisted pair
- ➡ Fiber optic
- Coaxial

Explanation

Ethernet 100BaseFX networks use fiber optic cabling.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #41]

Question 4: Correct

Which of the following Ethernet standards uses fiber-optic cabling? (Select two.)

- 1000BaseCX
- 100BaseT4
- ➡ ☑ 100BaseFX
- 100BaseTX
- ➡ ☑ 1000BaseLX

Explanation

100BaseFX and 1000BaseLX are Ethernet standards that use fiber optic cabling. Following the Ethernet naming conventions:

- F designates fiber-optic cables. Ethernet standards with the F designation are 10BaseFL and 100BaseFX.
- L designates long distances and requires fiber-optic to support the distance. Ethernet standards with the L designation are 10BaseFL, 1000BaseLX, and 10GBaseLR.
- S designates short distances that use fiber-optic cables. Ethernet standards with the S designation are 1000BaseSX and 10GBaseSR.
- T designates twisted pair cables. Ethernet standards with the T designation are 10BaseT, 100BaseTX, 100BaseT4, and 1000BaseT.
- C designates copper cables. The 1000BaseCX standard is for fast Ethernet at short distances within wiring closets.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #7]

Question 5: Correct

Your network follows the 100BaseFX specifications for Fast Ethernet and uses half-duplex multi-

mode cable. What is the maximum cable segment length allowed?

- 100 meters
- ➡ 412 meters
- 550 meters
- 1,000 meters
- 2,000 meters

Explanation

100BaseFX half-duplex multimode cable has a maximum segment length of 412 meters.

1000BaseSX and 1000BaseLX support multimode cable up to 550 meters. 10BaseFL supports fiber optic cable between 1,000 and 2,000 meters.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #15]

Question 6: Correct

Your network follows the 100BaseTX specifications for Fast Ethernet. What is the maximum cable segment length allowed?

- 500 meters
- 412 meters
- ➡ 100 meters
- 2,000 meters
- 1,000 meters

Explanation

Fast Ethernet using twisted pair cables (either 100BaseT4 or 100BaseTX) has a maximum cable segment length of 100 meters.

All Ethernet networks that use twisted pair cable (Ethernet, Fast Ethernet, Gigabit Ethernet) have a distance limitation of 100 meters.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #24]

Question 7: Correct

You have been tasked with designing an Ethernet network. Your client needs to implement a very high-speed network backbone between campus buildings, some of which are around 300 meters apart. Multi-mode fiber optic cabling has already been installed between buildings. Your client has asked that you use the existing cabling.

Which Ethernet standard meets these guidelines? (Choose two.)

- ☐ 1000BaseT
- ➡ ☑ 1000BaseSX
- ☐ 10BaseFL
- ☐

- [ ] 1000BaseCX
- [x] 10GBaseSR
- [ ] 10GBaseER

Explanation

10GBaseSR and 1000BaseSX can operate within these parameters. Both will support segment lengths 300 meters long and can use multi-mode fiber optic cabling.

10BaseFL isn't a good choice because its data transmission rate is relatively slow. 1000BaseCX and 1000BaseT both use copper wiring.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #161]

Question 8: Correct

What type of cabling is used with 100BaseTX Fast Ethernet networks?

- (•) Cat5 or higher
- ( ) Fiber optic
- ( ) Cat3
- ( ) Cat4

Explanation

Cat5 Ethernet cable or higher can be used with 100BaseTX Fast Ethernet networks.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #57]

Question 9: Correct

What topology is used with 100BaseTX Fast Ethernet networks? (Select two.)

- [x] Physical star/logical star
- [ ] Physical star/logical ring
- [x] Physical star/logical bus
- [ ] Physical ring/logical star

Explanation

100BaseTX Fast Ethernet networks use a physical star/logical bus topology when a hub is used or a physical star/logical star when a switch is used.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #65]

Question 10: Correct

Which of the following are requirements of the 1000BaseT Ethernet standards? (Select three.)

- [ ] The cable length must be less than or equal to 1000m
- [x]

- [x] Cat 5e cabling
- [ ] SC or ST connectors
- [x] RJ45 connectors
- [ ] Cat 5 cabling
- [x] The cable length must be less than or equal to 100m

Explanation

Gigabit Ethernet (1000BaseT) has similar requirements to 100BaseT with connectors, cabling, and distances. The network cards are simply designed to transfer data ten times as fast.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #105]

Question 11: Correct

You are planning a network for an educational campus. Due to the size of the buildings and the distance between them, you have elected to use 10BaseFL hubs, cabling, and network interface cards.

What is the maximum length for the network cable between a workstation and a hub?

- ( ) 412 meters
- ( ) 220 meters
- (•) 2000 meters
- ( ) 1000 meters
- ( ) 100 meters
- ( ) 550 meters

Explanation

The maximum length for a 10BaseFL network segment is 2000 meters (2 km). Because a 10BaseFL network uses a physical star topology, a segment is defined as one of the arms of the star (between the hub and a host). That means the fiber optic cable between the hub and a workstation can be up to 2000 meters long.

1000BaseSX and 1000BaseLX support multimode cable up to 550 meters. 100 meters is the maximum twisted pair cable length.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #123]

Question 12: Correct

Which Gigabit Ethernet standard uses multimode fiber optic cabling and supports network segments up to a maximum of 550 meters long?

- ( ) 1000BaseCX
- ( ) 1000BaseZX
- ( ) 1000BaseT
- (•) 1000BaseSX

Explanation

The 1000BaseSX standard uses multimode fiber optic cable with a maximum segment length of 550 meters. However, to implement segments this long, you must use 50-micron 500MHz/km multimode fiber optic cable. Other types of cable will shorten the maximum segment length. 1000BaseFX also supports lengths up to 550 meters using multimode cable. 1000BaseFX supports distances up to 10 kilometers using single mode cable.

1000BaseZX has a maximum segment length of up to 100 km. 1000BaseCX and 1000BaseT use copper cabling instead of fiber optic.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #133]

Question 13: Incorrect

You have been tasked with designing a high-speed Ethernet network. Your client's building already has 150-ohm shielded twisted pair (STP) wiring installed. Due to budget constraints, they have asked you to reuse the existing wiring instead of installing new fiber optic cabling.

Which Ethernet standard could you implement in this situation?

- 1000BaseSX
- 1000BaseCX
- 10BaseFL
- ~~1000BaseT~~
- 1000BaseLX
- 1000BaseZX

Explanation

The 1000BaseCX standard specifies 150-ohm STP cabling. The maximum cable length is 25 meters.

The 10BaseFL, 1000BaseSX, 1000BaseLX, and 1000BaseZX standards employ fiber optic cabling. 1000BaseT uses Category 5 UTP instead of STP cabling.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #142]

Question 14: Correct

Which Gigabit Ethernet standard can support long network segments up to a maximum of 5 km when used with single-mode fiber optic cable?

- 1000BaseT
- 1000BaseSX
- 1000BaseCX
- 1000BaseLX

Explanation

1000BaseLX supports segment lengths of up to 5 km when used with single-mode fiber optic cable. This maximum segment length is cut to 550 m when multimode fiber optic cable is used.

1000BaseSX supports segment lengths of only 550 meters. 1000BaseCX uses copper wire and supports segment lengths of only 25 meters. 1000BaseT uses twisted pair cables.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP05_1-3 #152]

Question 15: Correct

You would like to implement 10 Gbps Ethernet over a distance of 1 kilometer or greater. Which of the following would be the minimum requirement for the implementation? (Select two.)

- [ ] 10GBaseER standards
- [x] 10GBaseLR standards
- [ ] 10GBaseSR standards
- [x] Single-mode fiber
- [ ] Multi-mode fiber

Explanation

For 10 Gbps at distances up to 10 kilometers, use 10GBaseLR with single-mode fiber.

Multi-mode fiber is cheaper, but has a shorter maximum distance than single-mode fiber. 10GBaseSR uses multi-mode fiber at distances up to 300 meters. 10GBaseER supports distances up to 40 kilometers using single-mode fiber.

References

LabSim for Network Pro, Section 4.2.
[netpro18v5_all_questions_en.exm NP09_2-6 #4]