

CCST Networking – Module 9 Quiz

Questions

1. While setting up an Internet connection, you connect an RG-6 coaxial cable to a cable modem. Which of the following coax connectors are you most likely using?
 - a. BNC
 - b. Amphenol N-Type
 - c. F-Type
 - d. MTRJ
2. Identify the 6-position 2-conductor (6P2C) connector used for a single-line telephone.
 - a. RJ-11
 - b. RJ-14
 - c. RJ-25
 - d. RJ-45
3. You wish to support a bandwidth of 5 Gbps using the 5GBASE-T wiring standard. What is the minimum twisted pair category rated for 5GBASE-T support, while offering a distance limitation of 100 meters?
 - a. Category 5
 - b. Category 5e
 - c. Category 6
 - d. Category 6a
4. The 100BASE-TX standard uses which pins in an RJ-45 connector?
 - a. pins 1 - 8
 - b. pins 2, 4, 6, and 8
 - c. pins 4, 5, 7, and 8
 - d. pins 1, 2, 3, and 6
5. Which of the following fiber optic connectors saves space by housing two fiber strands in a single connector?
 - a. ST
 - b. SC
 - c. MT-RJ
 - d. LC

6. What Ethernet standard for fiber optic cabling supports a maximum data rate of 1 Gbps over a maximum distance of 220 meters using multimode fiber with a core diameter of 62.5 micrometers?
- a. 1000BASE-SR
 - b. 1000BASE-FX
 - c. 1000BASE-LX
 - d. 1000BASE-SX

Questions and Answers

1. While setting up an Internet connection, you connect an RG-6 coaxial cable to a cable modem. Which of the following coax connectors are you most likely using?
 - a. BNC
 - b. Amphenol N-Type
 - c. F-Type
 - d. MTRJ

Answer: c

Explanation: The coaxial (or “coax” for short) cable used to connect into a cable modem is typically an RG-59 cable or an RG-6 cable. These cables each have 75 Ohms of impedance. A connector commonly used on these cable types is an F-Type connector.

Older 10BASE2 networks commonly used an RG-58 cable with a BNC connector. The RG-58 cable used on 10BASE2 networks had 50 Ohms of impedance.

Older 10BASE5 networks commonly used an RG-8/U cable with an Amphenol N-Type connector. The RG-8/U cable used on 10BASE5 networks had 50 Ohms of impedance.

However, an MTRJ connector is used on fiber optic cables.

Video Reference: Coax Cables and Connectors

2. Identify the 6-position 2-conductor (6P2C) connector used for a single-line telephone.
 - a. RJ-11
 - b. RJ-14
 - c. RJ-25
 - d. RJ-45

Answer: a

Explanation: An RJ-11 connector has 6 positions and two conductors (a.k.a. “contacts”). The two conductors can be used as the tip and ring wires for a single-line phone.

An RJ-14 connector has 6 positions and 4 conductors. The two inner conductors can act as the tip and ring wires one line on a phone, while the two outer conductors can act as the tip and ring wires for a second line on a phone.

An RJ-25 connector has 6 positions and 6 conductors, which provides three pairs of conductors. Each of these pairs can act as the tip and ring wires for a line on a three-line phone.

An RJ-45 connector has 8 positions and 8 conductors, and it is wider than an RJ-11, RJ-14, or RJ-25 connector. The RJ-45 connector is commonly used on Ethernet cables.

Video Reference: Twisted Pair Cables and Connectors

3. You wish to support a bandwidth of 5 Gbps using the 5GBASE-T wiring standard. What is the minimum twisted pair category rated for 5GBASE-T support, while offering a distance limitation of 100 meters?
 - a. Category 5
 - b. Category 5e
 - c. Category 6
 - d. Category 6a

Answer: c

Explanation: Category 6 is the minimum category of twisted pair cabling rated for 5GBASE-T support for a distance of 100 meters.

While Category 6 also supports the 10GBASE-T standard, the distance limitation is more constrained at only 55 meters.

Video Reference: Ethernet Standards for Copper Cables

4. The 100BASE-TX standard uses which pins in an RJ-45 connector?
- a. pins 1 - 8
 - b. pins 2, 4, 6, and 8
 - c. pins 4, 5, 7, and 8
 - d. pins 1, 2, 3, and 6

Answer: d

Explanation: While the 1000BASE-T standard uses all eight pins in an RJ-45 connector, the 100BASE-TX standard only requires four pins. Specifically, the 100BASE-TX standard uses pins 1, 2, 3, and 6.

On an MDI (Media (or Medium) Dependent Interface), pins 1 and 2 are used for transmitting, and pins 3 and 6 are used for receiving.

Video Reference: Straight Through vs. Crossover Cables

5. Which of the following fiber optic connectors saves space by housing two fiber strands in a single connector?
- a. ST
 - b. SC
 - c. MT-RJ
 - d. LC

Answer: c

Explanation: Of the fiber optic connectors listed, only the MT-RJ connector contains two fiber optic strands in a single connector. This allows more fibers to be terminated in a smaller space.

Video Reference: Fiber Optic Connectors

6. What Ethernet standard for fiber optic cabling supports a maximum data rate of 1 Gbps over a maximum distance of 220 meters using multimode fiber with a core diameter of 62.5 micrometers?
- a. 1000BASE-SR
 - b. 1000BASE-FX
 - c. 1000BASE-LX
 - d. 1000BASE-SX

Answer: d

Explanation: Of the options listed, only 1000BASE-LX and 1000BASE-SX are valid Ethernet standards for fiber optic cables. The 1000BASE-SX supports a data rate of 1 Gbps over a maximum distance of 220 meters with a core diameter of 62.5 micrometers or a maximum distance of 550 meters with a core diameter of 50 micrometers.

Video Reference: Ethernet Standards for Fiber Optic Cabling