Question 1

In the UTP category rating, the tighter the wind:

Options:

A- the higher the rating and its resistance against interference and crosstalk.

B- the slower the rating and its resistance against interference and attenuation.

C- the shorter the rating and its resistance against interference and attenuation.

D- the longer the rating and its resistance against interference and attenuation.

Answer:

A

Explanation:

The category rating is based on how tightly the copper cable is wound within the shielding: The tighter the wind, the higher the rating and its resistance against interference and crosstalk.

Twisted pair copper cabling is a form of wiring in which two conductors are wound together for the purposes of canceling out electromagnetic interference (EMI) from external sources and crosstalk from neighboring wires. Twisting wires decreases interference because the loop area between the wires (which determines the magnetic coupling into the signal) is reduced. In balanced pair operation, the two wires typically carry equal and opposite signals (differential mode) which are combined by subtraction at the destination. The noise from the two wires cancel each other in this subtraction because the two wires have been exposed to similar EMI.

The twist rate (usually defined in twists per metre) makes up part of the specification for a given type of cable. The greater the number of twists, the greater the attenuation of crosstalk. Where pairs are not twisted, as in most residential interior telephone wiring, one member of the pair may be closer to the source than the other, and thus exposed to slightly different induced EMF.

KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 101.

and

http://www.consultants-online.co.za/pub/itap_101/html/ch04s05.html

Question 2

Question Type: **MultipleChoice**

Unshielded Twisted Pair (UTP) cables comes in several categories. The categories are based on:

Options:

A- The level of performance

B- How thick the shielding is.

C- The length of the cable

D- The diameter of the copper.

Answer:

A

Explanation:

TIA/EIA-568 is a set of telecommunications standards from the Telecommunications Industry Association, an offshoot of the EIA. The standards address commercial building cabling for telecom products and services.

The standard is currently (2009) at revision C, replacing the 2001 revision B, the 1995 revision A, and the initial issue of 1991, which are now obsolete.

Perhaps the best known features of TIA/EIA-568 are the pin/pair assignments for eight-conductor 100-ohm balanced twisted pair cabling. These assignments are named T568A and T568B, and are frequently referred to (erroneously) as TIA/EIA-568A and TIA/EIA-568B. An IEC standard ISO/IEC 11801 provides similar standards for network cables.

The standard defines categories of unshielded twisted pair cable systems, with different levels of performance in signal bandwidth, attenuation, and cross-talk. Generally increasing category numbers correspond with a cable system suitable for higher rates of data transmission. Category 3 cable was suitable for telephone circuits and data rates up to 16 million bits per second. Category 5 cable, with more restrictions on attenuation and cross talk, has a bandwidth of 100 MHz. The 1995 edition of the standard defined categories 3, 4, and 5. Categories 1 and 2 were excluded from the standard since these categories were only used for voice circuits, not for data.

Twisted pair cabling is a type of wiring in which two conductors of a single circuit are twisted together for the purposes of canceling out electromagnetic interference (EMI) from external sources; for instance, electromagnetic radiation from unshielded twisted pair (UTP) cables, and crosstalk between neighboring pairs. It was invented by Alexander Graham Bell.

SOME OF THE LIMITATION OF UTP

UTP has several drawbacks. Because it does not have shielding like shielded twisted-pair cables, UTP is susceptible to interference from external electrical sources, which could reduce the integrity of the signal. Also, to intercept transmitted data, an intruder can install a tap on the cable or monitor the radiation from the wire. Thus, UTP may not be a good choice when transmitting very sensitive data or when installed in an environment with much electromagnetic interference (EMI) or radio frequency interference (RFI). Despite its drawbacks, UTP is the most common cable type. UTP is inexpensive, can be easily bent during installation, and, in most cases, the risk from the above drawbacks is not enough to justify more expensive cables.

Resource(s) used for this question:

Hernandez CISSP

, Steven (2012-12-21). Official (ISC)2 Guide to the CISSP CBK, Third Edition ((ISC)2 Press) (Kindle Locations 6507-6511). Auerbach Publications. Kindle Edition.

http://en.wikipedia.org/wiki/TIA/EIA-568#cite_note-7

AIOv3 Telecommunication and Networking Security (page 455)

Question 3

Question Type: **MultipleChoice**

Unshielded Twisted Pair cabling is a:

Options:

A- four-pair wire medium that is used in a variety of networks.

B- three-pair wire medium that is used in a variety of networks.

C- two-pair wire medium that is used in a variety of networks.

D- one-pair wire medium that is used in a variety of networks.

Answer:

A

Explanation:

Unshielded Twisted Pair cabling is a four-pair wire medium that is used in a variety of networks.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 101.

Question 4

Question Type: **MultipleChoice**

Network cabling comes in three flavors, they are:

Options:

A- twisted pair, coaxial, and fiber optic.

B- tagged pair, coaxial, and fiber optic.

C- trusted pair, coaxial, and fiber optic.

D- twisted pair, control, and fiber optic.

Answer:

A

Explanation:

Network cabling comes in three flavors: twisted pair, coaxial, and fiber optic.

Twisted pair

Twisted pair cabling is a form of wiring in which two wires (the forward and return conductors of a single circuit) are twisted together for the purposes of canceling out electromagnetic interference (EMI) from external sources. This type of cable is used for home and corporate Ethernet networks. Twisted pair cables consist of two insulated copper wires. There are three types of twisted pair cables: Shielded, Unshielded and Foil

Fiber Optic cable

An optical fiber cable consists of a center glass core surrounded by several layers of protective material. The outer insulating jacket is made of Teflon or PVC to prevent interference. It is expensive but has higher bandwidth and can transmit data over longer distances.

Coaxial cable

Coaxial lines confine the electromagnetic wave to area inside the cable, between the center conductor and the shield. The transmission of energy in the line occurs totally through the dielectric inside the cable between the conductors. Coaxial lines can therefore be bent

and twisted (subject to limits) without negative effects, and they can be strapped to conductive supports without inducing unwanted currents in them and though.

The most common use for coaxial cables is for television and other signals with bandwidth of multiple megahertz. Although in most homes coaxial cables have been installed for transmission of TV signals, new technologies (such as the ITU-T G.hn standard) open the possibility of using home coaxial cable for high-speed home networking applications (Ethernet over coax).

See the following page for more details: http://fcit.usf.edu/network/chap4/chap4.htm

Reference used for this question:

KRUTZ,

Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 101.

and

Wikipedia at http://en.wikipedia.org/wiki/Networking_cables

Question 5

Question Type: **MultipleChoice**

The communications products and services, which ensure that the various components of a network (such as devices, protocols, and access methods) work together refers to:

Options:

A- Netware Architecture.

B- Network Architecture.

C- WAN Architecture.

D- Multiprotocol Architecture.

Answer:

B

Explanation:

A Network Architecture refers to the communications products and services, which ensure that the various components of a network (such as devices, protocols, and access methods) work together.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 101.

Question 6

Domain Name Service is a distributed database system that is used to map:

Options:

A- Domain Name to IP addresses.

B- MAC addresses to domain names.

C- MAC Address to IP addresses.

D- IP addresses to MAC Addresses.

Answer:

A

Explanation:

The Domain Name Service is a distributed database system that is used to map domain names to IP addresses and IP addresses to domain names.

The Domain Name System is maintained by a distributed database system, which uses the client-server model. The nodes of this database are the name servers. Each domain has at least one authoritative DNS server that publishes information about that domain and the name servers of any domains subordinate to it. The top of the hierarchy is served by the root nameservers, the servers to query when looking up (resolving) a TLD.

Reference(s) used for this question:

KRUTZ,

Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 100.

and

https://en.wikipedia.org/wiki/Domain_Name_System

Question 7

Question Type: **MultipleChoice**

Which communication method is characterized by very high speed transmission rates that are governed by electronic clock timing signals?

Options:

A- Asynchronous Communication.

B- Synchronous Communication.

C- Automatic Communication.

D- Full duplex Communication.

Answer:

B

Explanation:

Synchronous Communication is characterized by very high speed transmission rates that are governed by electronic clock timing signals.

Source: KRUTZ, Ronald L. & VINES, Russel D., The CISSP Prep Guide: Mastering the Ten Domains of Computer Security, 2001, John Wiley & Sons, Page 100