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**CompTIA Strata IT Fundamentals**  
**Version 4.5**

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## Topic 1, Volume A

## QUESTION NO: 1

Which of the following statements about a riser card is true?

- A. It is used to connect a computer in a network.
- B. It is used to connect extra microprocessors.
- C. It provides extra memory for expansion cards.
- D. It is used to extend slots for expansion cards.

**Answer: D**

**Explanation:**

Riser card is a circuit board that is used to extend slots for expansion cards and provides the ability to connect additional expansion cards to the computer. These cards are used with LPX motherboards. With the introduction of ATX motherboards, riser cards are rarely used. In ATX motherboards, the expansion cards connect directly to the computer motherboard instead of using riser cards.

What is LPX?

LPX is a motherboard form or that is used in some desktop computers. In LPX motherboards, expansion cards are inserted into a riser card that contains several slots. Unlike other common form ors such as AT and ATX, the expansion cards in LPX are not vertical, but parallel to the motherboard.

The LPX form or is designed for smaller cases, and usually it is used for connecting two or three expansion cards.

## QUESTION NO: 2

Which of the following devices is used for accessing the data on Secure Digital (SD) card, MMC card, and CompactFlash (CF)?

- A. E-book reader
- B. Memory card reader
- C. Smart card reader
- D. Barcode reader

**Answer: B**

**Explanation:**

A memory card reader is a device, typically having a USB interface, for accessing the data on a memory card such as a CompactFlash (CF), Secure Digital (SD) or MultiMediaCard (MMC).

Answer option C is incorrect. Smart card readers are used to read smart cards. It is used as a communications medium between the smart card and a host.

Answer option D is incorrect. A barcode reader (or barcode scanner) is an electronic device for reading printed barcodes.

Answer option A is incorrect. There is no such device as e-book reader.

## QUESTION NO: 3

Which of the following can be used to accomplish authentication?

Each correct answer represents a complete solution. Choose all that apply.

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- A. Biometrics
- B. Encryption
- C. Password
- D. Token

**Answer:** A, C, D

**Explanation:**

The following can be used to accomplish authentication.

1. Password
2. Biometrics
3. Token

A password is a secret word or string of characters that is used for authentication, to prove identity, or gain access to a resource.

What is authentication?

Authentication is a process of verifying the identity of a person, network host, or system process.

The authentication process compares the provided credentials with the credentials stored in the database of an authentication server.

What is biometrics?

Biometrics is a method of authentication that uses physical characteristics, such as fingerprints, scars, retinal patterns, and other forms of biophysical qualities to identify a user. Nowadays, the usage of biometric devices such as hand scanners and retinal scanners is becoming more common in the business environment. A token may be a physical device or software token that an authorized user of computer services is given to ease authentication.

Answer option B is incorrect. Encryption can be used to accomplish security and not authentication.

**QUESTION NO: 4**

Which of the following devices can cause great harm to one's life with lethal electric shocks?

Each correct answer represents a complete solution. Choose two.

- A. SMPS
- B. Floppy drive
- C. Monitor
- D. Keyboard.

**Answer:** A, C

**Explanation:**

A computer monitor and SMPS are at high voltage. Therefore, these devices can be fatal. They usually have large amount of electric charge stored in capacitors for days after they have been unplugged from power source.

What is SMPS?

Switch Mode Power Supply (SMPS) is a device that converts raw input power to controlled voltage and current for the operation of electronic equipment. SMPS uses switches for high efficiency.

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Answer options D and B are incorrect. Keyboards and floppy drives do not store electric charge.

Therefore, they cannot cause lethal electric shocks.

**QUESTION NO: 5**

Which of the following ports on a computer are used to connect a keyboard?

Each correct answer represents a complete solution. Choose two.

- A. USB
- B. DB-25
- C. PS/2
- D. DB-9

**Answer:** A, C

**Explanation:**

The PS/2 and USB ports on a computer are used to connect a keyboard.

What is USB?

Universal Serial Bus (USB) is a high speed bus standard developed by Compaq, IBM, DEC, Intel, Microsoft, NEC, and Northern Telecom. It provides the Plug and Play capability of Windows to external hardware devices. USB supports hot plugging, which means that a USB device can be installed or removed while the computer is running. A single USB port can be used to connect up to 127 peripheral devices, such as CD-ROM drives, tape drives, keyboards, scanners etc. USB 1.1 has a maximum data transfer rate of 12 Mbps, whereas USB 2.0 has a maximum data transfer rate of 480

Mbps. USB 2.0 is fully backward compatible with USB 1.1.

Answer options D and B are incorrect. The DB-9 and DB-25 port types on the computer are used as serial ports. A DB-9 male type port has 9 pins, whereas a DB-25 male type port has 25 pins.

What is a serial port?

Serial port is the primary means for connecting modems and mouse to a computer. There are two types of serial port connectors, 9-pin and 25-pin. The word serial refers to the data is sent in series, one bit at a time, over a single wire. This design is significantly slower than sending 8 bits at a time via a parallel channel, but serial signals can travel much farther without degradation.

**QUESTION NO: 6**

Which of the following features are related to power management?

Each correct answer represents a complete solution. Choose two.

- A. Hot plugging
- B. Hibernate mode
- C. Standby mode
- D. Safe mode

**Answer:** B, C

**Explanation:**

The Hibernate mode and Standby mode are features related to power management.

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Hibernate mode is a power saving feature for computers. In hibernate mode, the current state of a computer is saved to the hard disk, and the computer shuts down. A user will have to power on the computer to restore the previous settings. When a computer resumes from hibernate mode, it reads the saved settings from the disk and restores the system state as it was before it entered hibernate mode. By default, hibernate mode is disabled. If a computer is not ACPI-enabled or APM-enabled, users will have to enter hibernate mode manually. Users cannot set the computer to automatically hibernate after a certain time. With ACPI-enabled and APM-enabled computers, users are able to set hibernate mode automatically.

The standby mode is a power saving feature for computers. In this mode, a computer does not shut down completely. The computer goes to low power state and, as a result, it consumes less power.

When the computer resumes from the standby mode, full power is restored to its devices. During the standby mode, if the power supply is disconnected or interrupted, data might be lost. The standby mode is available automatically on ACPI-enabled or APM-enabled computers. Users do not need to enable this mode manually. This mode is not available in non-ACPI and non-APM based computers.

Answer option A is incorrect. Hot plugging is a feature in which a device can be installed or removed while the computer is running.

Answer option D is incorrect. Safe Mode is a Windows feature used to start a computer with basic drivers, such as mouse, keyboard, etc. It bypasses blocking issues, such as system corruption, or installation of incompatible drivers or system services, enabling the Administrator to resolve such issues.

**QUESTION NO: 7**

Which of the following are types of LCD monitors?

Each correct answer represents a complete solution. Choose two.

- A. SVGA
- B. Active Matrix
- C. Passive Matrix
- D. X-Matrix

**Answer:** B, C

**Explanation:**

Two types of LCDs are available.

Active matrix

Passive matrix

Active matrix LCDs uses individual transistors to control each pixel on the screen. This type of LCD consumes more power but provides sharper images than the passive matrix LCD. Passive matrix

Passive matrix screens do not refresh quickly to rapid changes. The passive matrix screen displays weak colors. LCDs consume less power and are cheaper than Active matrix LCDs.

Answer option A is incorrect. SVGA is a type of CRT monitor used with the Desktop computers, and not the LCD monitor.

Answer option D is incorrect. There is no LCD display type such as X-Matrix.

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**QUESTION NO: 8**

Which of the following transmits all ATSC HDTV standards and supports 8-channel digital audio?

- A. DVI
- B. S-Video
- C. SVGA
- D. HDMI

**Answer: D**

**Explanation:**

HDMI stands for High-Definition Multimedia Interface. It is a standard, uncompressed, and all-digital audio/video interface. HDMI is capable of delivering the highest quality digital video and multichannel digital audio on a single cable. It provides an interface between any audio/video sources, such as a DVD player or a computer and a digital television (DTV) or video monitor. HDMI transmits all ATSC HDTV standards and supports 8-channel digital audio, with extra bandwidth to accommodate future enhancements. HDMI has two types of connectors. Type A and Type B. Type A and Type B connectors use 19 pins and 29 pins, respectively. The Type B connector is designed for very high-resolution displays that are expected in near future.

Answer option B is incorrect. S-Video, also known as Y/C video, stands for Super-Video. It is a technology for video transmission. Using this technology, the video is transmitted into two separate signals. One is used for color, and the other for brightness. Sometimes S-Video signals are considered as a type of component video signal. However, its quality is inferior to other complex component video schemes such as RGB. This technology produces sharper images than those produced by composite video, which carries the entire set of signals in a single line. For using SVideo, the device sending the signal must support S-Video output and the device receiving the signal needs to have an S-Video input jack.

Answer option A is incorrect. DVI stands for Digital Visual Interface. It is a standard for high speed, high resolution digital display invented by Digital Display Working Group (DDWG). DVI accommodates analog and digital interfaces with a single connector. New video cards have DVI as well as VGA ports built into them. Most of LCD monitors come with a 15-pin VGA connection cable, even if they are capable of handling digital signals coming from DVI connections. However, some monitors come with both types of cables. DVI has three main categories of connectors. They are. DVI-A, DVI-D, and DVI-I. DVI-A is an analog-only connector, DVI-D is a digital-only connector, and DVI-I is an analog/digital connector. DVI-D and DVI-I connectors are of two types. single link and dual link. DVI supports UXGA and HDTV with a single set of links.

Higher resolutions such as 1920 x 1080, 2048 x 1536, or more can be supported with dual links.

Answer option C is incorrect. A VGA or SVGA connector is a 15-pin, three rows, female connector, on the back of a PC used for connecting monitors. Reference.

"[http://en.wikipedia.org/wiki/High-Definition\\_Multimedia\\_Interface](http://en.wikipedia.org/wiki/High-Definition_Multimedia_Interface)"

**QUESTION NO: 9**

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You are handling IT support for a sales company. One of the sales representatives complains that his laptop does not have a network card. You wish to add one via an expansion slot. What type of expansion card should you use?

- A. MCA
- B. PCMCIA
- C. PCI
- D. AGP

**Answer: B**

**Explanation:**

PCMCIA is a widely used expansion card slot for laptops.

What is PCMCIA card? Personal Computer Memory Card International Association (PCMCIA) card is also known as PC card.

The PC card uses a small expansion slot and is primarily used in laptops. However, PC cards are also available in some of the desktop computers. There are three types of PCMCIA cards.

- 1.Type I
- 2.Type II
- 3.Type III

Answer option C is incorrect. PCI slots are used in PC's, not laptops.

Answer option D is incorrect. AGP is a legacy graphics slot for PC's.

What is AGP (Accelerated Graphics Port)?

AGP is a high speed 32-bit bus designed for high performance graphics and video support. It allows a video card to have direct access to a computer's RAM, which enables fast video performance. AGP provides a bandwidth of up to 2,133 MB/second.

Answer option A is incorrect. MCA is a legacy PC slot.

Reference. <http://www.wisegeek.com/what-is-an-expansion-card.htm>

**QUESTION NO: 10**

Which of the following terms refers to an anti-virus software file that is updated from time to time to protect a computer from new viruses?

- A. Definition
- B. Modules
- C. Service pack
- D. Hotfix

**Answer: A**

**Explanation:**

Definition is an anti-virus software file that should be updated at regular intervals to protect a computer from new viruses. This file is also known as virus definition file. The virus definition file contains information about the latest viruses, which helps identify new viruses and protect computers from them.

Answer option D is incorrect. Hotfix is a collection of files used by Microsoft for software updates that are released between major service pack releases. A hotfix is about a problem, occurring under specific circumstances, which cannot wait to be fixed till the

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next service pack release. Hotfixes are generally related to security problems. Hence, it is essential to fix these problems as soon as possible.

Answer option C is incorrect. A service pack is a collection of Fixes and Patches in a single product. A service pack can be used to handle a large number of viruses and bugs or to update an operating system with advanced and better capabilities. A service pack usually contains a number of file replacements.

Answer option B is incorrect. This term does not refer to any anti-virus software file.

Reference. "[http://en.wikipedia.org/wiki/Computer\\_virus](http://en.wikipedia.org/wiki/Computer_virus)"

**QUESTION NO: 11**

You are implementing wireless access at a defense contractor. Specifications say, you must implement the AES Encryption algorithm. Which encryption standard should you choose?

- A. WEP
- B. WPA
- C. TKIP
- D. WPA 2

**Answer: D**

**Explanation:**

WPA 2 (Wi Fi Protected Access 2) uses AES encryption, which is endorsed by the National Security Administration.

What is AES?

The Advanced Encryption Standard (AES) is an encryption standard adopted by the U.S. government.

The standard comprises three block ciphers, AES-128, AES-192, and AES-256. Each AES cipher has a

128-bit block size, with key sizes of

128, 192, and 256 bits, respectively. The AES ciphers have been analyzed extensively and are now used worldwide, as was the case with its predecessor, the Data Encryption Standard (DES).

AES was announced by National Institute of Standards and Technology (NIST) as U.S. FIPS PUB 197

(FIPS 197) on

November 26, 2001 after a 5-year standardization process in which fifteen competing designs were presented and evaluated before Rijndael was selected as the most suitable. It became effective as a standard on May 26, 2002. As of

2009, AES is one of the most popular algorithms used in symmetric key cryptography. It is available in many different encryption packages. AES is the first publicly accessible and open cipher approved by the NSA for top secret information.

Answer option A and B are incorrect. WEP and WPA both use the RC-4 Stream cipher. What is RC4?

RC4 is a stream cipher designed by Ron Rivest. It is used in many applications, including Transport Layer Security (TLS), Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA), etc. RC4 is fast and simple. However, it has weaknesses that argue against its use in new systems. It is especially vulnerable when the beginning of the



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output key stream is not discarded, nonrandom or related keys are used, or a single key stream is used twice. Some ways of using RC4 can lead to very insecure cryptosystems such as WEP.

Answer option C is incorrect. Temporal Key Integrity Protocol is a substitute for WPA, meant to replace WEP without requiring that hardware be replaced. Reference. [http://en.wikipedia.org/wiki/IEEE\\_802.11i](http://en.wikipedia.org/wiki/IEEE_802.11i)

**QUESTION NO: 12 DRAG DROP**

Drag and drop the appropriate class of fire extinguisher in front of types of fires.

Drag an item from the item list and drop it on the appropriate spot. To remove an item, drag and drop it anywhere on the window.

Type of Fire	Appropriate Fire Extinguisher Used
Wood and Paper Fire	Placeholder
Electrical Fire	Placeholder
Flammable liquids and gases	Placeholder

Answer:

Correct Answer
  Your Answer

Type of Fire	Appropriate Fire Extinguisher Used
Wood and Paper Fire	Placeholder
Electrical Fire	Placeholder
Flammable liquids and gases	Placeholder

**Explanation:** Class A fire extinguisher is used for wood and paper fire. Class B fire extinguisher is used for flammable liquid and gases fire. Class C fire extinguisher is used for electrical fire. Class D fire extinguisher is used for combustible metals fire. Reference. "[http://en.wikipedia.org/wiki/Fire\\_extinguisher](http://en.wikipedia.org/wiki/Fire_extinguisher)"

**QUESTION NO: 13**

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What is the maximum cable length to connect a device to an IEEE 1394a port?

- A. 12 meters
- B. 10 meters
- C. 4.5 meters
- D. 5 meters

**Answer:** C

**Explanation:**

The maximum cable length to connect a device to an IEEE 1394a port is 4.5 meters.

What is IEEE 1394?

Institute of Electrical and Electronics Engineers (IEEE) 1394 is a standard for high-speed serial bus that provides enhanced PC connectivity for a wide range of devices. These devices include consumer audiovisual components, traditional PC storage devices, and handheld devices. IEEE 1394 is also known as Fire wire.

Answer option D is incorrect. The maximum cable length to connect a device to USB 1.1 and USB 2.0 ports is 5 meters.

What is USB?

Universal Serial Bus (USB) is a high speed bus standard developed by Compaq, IBM, DEC, Intel, Microsoft, NEC, and Northern Telecom. It provides the Plug and Play capability of Windows to external hardware devices. USB supports hot plugging, which means that a USB device can be installed or removed while the computer is running. A single USB port can be used to connect up to 127 peripheral devices, such as CD-ROM drives, tape drives, keyboards, scanners etc. USB 1.1 has a maximum data transfer rate of 12 Mbps, whereas USB 2.0 has a maximum data transfer rate of 480 Mbps. USB 2.0 is fully backward compatible with USB 1.1.

**QUESTION NO: 14**

Which of the following is an international standard for energy efficient consumer products?

- A. Energy Star rating
- B. Standby mode
- C. Trusted Computer System Evaluation Criteria (TCSEC)
- D. Advanced Configuration and Power Interface (ACPI)

**Answer:** A

**Explanation:**

Energy Star rating is an international standard for energy efficient consumer products. The Energy Star rating is an international standard for energy efficient consumer products. Devices carrying the Energy Star logo are products, such as computer devices, peripherals, kitchen appliances, etc. These products generally use 20% to 30% lesser energy than required by the federal standards. The Energy Star program was created by the 'United States Environmental Protection Agency' (US EPA) as an attempt to reduce energy consumption and greenhouse gas emission by power plants. The program has helped in spreading the use of LED traffic