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[IT Essentials \(ITE v6.0 + v7.0\) Chapter 3 Exam Answers 100%](#)

1. Match the RAID technology terms to the description. (Not all options are used.)

parity	provides fault tolerance for up to two failed drives
striping	<input checked="" type="checkbox"/> double parity
mirroring	stores the same data on multiple drives simultaneously
duplexing	<input checked="" type="checkbox"/> mirroring
double parity	enables data to be distributed across multiple drives
	<input checked="" type="checkbox"/> striping
	provides basic error checking and fault tolerance by storing checksums separately from data
	<input checked="" type="checkbox"/> parity

2. Which two considerations would be of the greatest importance when building a workstation that will run multiple virtual machines? (Choose two.)

- amount of RAM *
- number of CPU cores*
- water cooling
- powerful video card
- high-end sound card

Explanation:Virtual computing requires more powerful hardware configurations because each installation needs its own resources and thus requires a lot of RAM and CPU processing power.

3. Which two components are commonly replaced when a computer system with a newer motherboard is being upgraded? (Choose two.)

- **RAM***
- hard disk drive
- **CPU***
- optical drive
- CMOS battery
- adapter card

Explanation:When a motherboard is being upgraded to a newer version, both the CPU and RAM are commonly upgraded to support the motherboard compatibility requirements.

4. What are two reasons for installing a second hard disk drive inside an existing computer? (Choose two.)

- **to support a RAID array***
- to store BIOS configuration settings
- **to store the system swap file***
- to increase CPU speed
- to allow access to a secondary display output

Explanation:The common reasons to install a second hard disk drive in a computer include: 1) increase storage space, 2) increase hard drive speed, 3) install a second operating system, 4) store the system swap file, 5) provide fault tolerance, and 6) backup the original hard drive.

5. A technician has just finished assembling a new computer. When the computer is powered up for the first time, the POST discovers a problem. How does the POST indicate the error?

- **It issues a number of short beeps.***
- The LED on the front of the computer case flashes a number of times.
- It places an error message in the BIOS.
- It locks the keyboard.

6. What is a function of the BIOS?

- enables a computer to connect to a network
- provides temporary data storage for the CPU
- **performs a check on all internal components***
- provides graphic capabilities for games and applications

7. A technician has assembled a new computer and must now configure the BIOS. At which point must a key be pressed to start the BIOS setup program?

- before the computer is powered on
- during the Windows load process
- **during the POST***
- after the POST, but before Windows starts to load

Explanation:To enter the BIOS setup program, you must press the proper key or key sequence during POST. Many motherboards will display graphics while the computer is checking hardware and waiting for the proper key press for the user to enter the BIOS.

8. How does an inline UPS protect computer equipment against electrical power brownouts and blackouts?

- by grounding excess electrical voltage
- **by using a battery to supply a constant level of voltage***
- by switching from main power to a standby power source
- by stopping the flow of voltage to the computer

Explanation:Uninterruptible power supplies (UPS) contain a battery which is constantly providing a consistent level of voltage to the computer.

9. Which condition refers to a reduced voltage level of AC power that lasts for an extended period of time?

- **brownout***
- sag
- spike
- surge

Explanation:Surges and spikes are increased voltage levels. A sag is a short duration reduction in line voltage while a brownout is a reduction in voltage that occurs for an extended period of time.

10. How should a technician dispose of an empty inkjet printer cartridge?

- Refill it.
- Throw it away.
- **Follow local regulations for disposal.***
- Give it back to the customer.

Explanation:Refilling used inkjet cartridges is not recommended, as it may void the printer warranty and could leak ink, damaging the printer. Printer cartridges should be recycled, following the procedures established for recycling by the manufacturer. Because they are an environmental hazard, they should never be thrown away.

11. What makes CRT monitor disposal dangerous for a technician who is handling the disposal?

- potential breathing hazards
- potential explosive materials
- **potential residual high voltage***
- potential health-damaging chemicals

Explanation:CRT monitors do contain lead, barium, and rare earth metals that can be dangerous to the environment if not disposed of properly, but the danger to the technician is in the high voltage levels that can be stored even after powering off the monitor and disconnecting the power cord. A technician might be disposing of a CRT monitor that has the cover ajar or removed and be exposed to the high voltage.

12. Which type of interface was originally developed for high-definition televisions and is also popular to use with computers to connect audio and video devices?

- FireWire
- DVI
- **HDMI***
- USB
- VGA

Explanation:High definition multimedia interface, or HDMI, was originally a television standard. However, because it has many digital features, it is also a popular interface to connect audio and video devices to computers.

13. What is indicated by the contrast ratio of a monitor?

- **the difference in the intensity of light between the brightest white and darkest black that can be displayed***
- how often the picture image is refreshed
- the total number of pixels that make up the picture
- the ratio of the horizontal and vertical viewing areas of the monitor

Explanation:Contrast ratio is one of many factors that is used to describe the resolution of a monitor. Contrast ratio is a measure of the difference in intensity between white and black areas of the picture. A higher contrast ratio means the monitor can produce pictures with brighter whites and darker blacks.

14. What electrical unit refers to the number of electrons moving through a circuit per second?

- **current***
- voltage
- resistance
- power

Explanation:Current refers to the amount of electrons moving through a circuit per second and is measured in amperes or amps.

15. What characteristic of electricity is expressed in watts?

- the amount of work required to move electrons through a circuit
- the resistance to the flow of current in a circuit
- the amount of electrons flowing through a circuit per second
- **the work required to move electrons through a circuit multiplied by the number of electrons flowing through a circuit per second***

Explanation:Watts is the unit used to measure the electrical power. Power refers to the work required to move electrons through a circuit multiplied by the number of electrons flowing through a circuit per second.

16. Which is a BIOS security feature that can prevent data from being read from a hard drive even if the hard drive is moved to another computer?

- **drive encryption***
- RAID
- secure boot
- BIOS passwords

Explanation:There are several commonly available BIOS security features. Drive encryption is used to encrypt hard drives to prevent data access. Secure boot ensures that devices will only boot a trusted operating system. BIOS passwords allow different levels of BIOS access. RAID is not a BIOS security feature but rather provides redundancy and fault tolerance by using multiple hard drives.

17. What data is stored in the CMOS memory chip?

- **BIOS settings***
- Windows configuration settings

- user login information
- device driver

Explanation:The complementary metal-oxide semiconductor (CMOS) chip is a small memory chip located on the motherboard that is used to store saved BIOS settings.

18. What is the purpose of LoJack?

- **It allows the owner of a device to remotely locate, lock, or delete all files from the device.***
- It ensures that a computer will only boot an operating system that is trusted by the motherboard manufacturer.
- It provides passwords for different levels of access to the BIOS.
- It encrypts data on hard drives to prevent access without the correct password.

Explanation:The LoJack security feature protects against data theft if a device is stolen by allowing the owner to locate, lock, or delete all files on the device.

19. What is one purpose of adjusting the clock speed within the BIOS configuration settings?

- to allow a computer to run multiple operating systems in files or partitions
- to change the order of the bootable partitions
- to disable devices that are not needed or used by the computer
- **to allow the computer to run slower and cooler***

Explanation:The CPU clock speed can be adjusted up or down within the BIOS configuration settings. By lowering the clock speed, a CPU can run slower and cooler. Increasing the CPU clock speed makes the computer run faster and hotter.

20. A user playing a game on a gaming PC with a standard EIDE 5400 RPM hard drive finds the performance unsatisfactory. Which hard drive upgrade would improve performance while providing more reliability and more energy efficiency?

- a 7200 RPM EIDE hard drive
- a 7200 RPM SATA hard drive
- a 10,000 RPM SATA hard drive
- **an SSD***

Explanation:Games require a lot of storage. In order for the computer to load and run games quickly, a fast hard drive will need to be installed. To obtain best performance an SSD (Solid-State Drive) will perform faster than an EIDE drive or a SATA drive.

21. Which security feature in modern CPUs protects memory areas that contain part of the operating system from malware attacks?

- encryption
- TPM
- **execute disable bit***
- LoJack

Explanation:The execute disable option can be turned on, if the feature is supported by the OS, to prevent malicious code from being executed inside a specific memory area that contains operating system files.

22. A user reports that every morning when a particular computer is turned on, the configuration settings on that computer have to be reset. What action should be taken to remedy this situation?

- Replace the motherboard.

- **Replace the CMOS battery.***
- Move the jumpers.
- Upgrade the BIOS.

Explanation: BIOS information is maintained through the use of a CMOS battery. If the CMOS battery no longer provides power, configuration settings may be lost.

23. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 6?

- **3***
- 5
- 6
- 7

24. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 10?

- **4***
- 5
- 6
- 7

25. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 10?

- **4***
- 6
- 10
- 7

26. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 1?

- **2***
- 6
- 10
- 7

27. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 5?

- **3***
- 7
- 6
- 10

28. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 5?

- **3***
- 1
- 7

- 10
- 29. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 6?
- **3***
- 1
- 7
- 10
- 30. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 6?
- **3***
- 1
- 5
- 6
- 31. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 10?
- **4***
- 5
- 1
- 6
- 32. A data analyst has asked a technician to help protect locally stored data by installing a RAID. What is the minimum number of drives the technician has to install if configuring a RAID level 1?
- **2***
- 6
- 1
- 5
- 33. A technician has been asked to configure several computers with RAID. The customer needs protection if one drive fails, fast access, and drive capacity. Which RAID should the technician install?
- **RAID 5***
- RAID 4
- RAID 2
- RAID 3
- 34. A technician has been asked to configure several computers with RAID. The customer needs protection if two drive fails and wants as much drive capacity as possible. Which RAID should the technician install?
- **RAID 6***
- RAID 7
- RAID 2
- RAID 3
- 35. A technician has been asked to configure several computers with RAID. The customer needs protection if two drive fails and wants as much drive capacity as possible. Which RAID should the technician install?

- **RAID 6***
- RAID 7
- RAID 8
- RAID 4

36. A technician has been asked to configure several computers with RAID. The customer needs protection for one drive failure and only has room in the computer for two drives. Which RAID should the technician install?

- **RAID 1***
- RAID 7
- RAID 8
- RAID 4

37. A technician has been asked to configure several computers with RAID. The customer wants RAID and full drive capacity, but does not care about a drive failure, because all data is constantly backed up. The computer where the RAID is to be installed only has room for two drives. Which RAID should the technician install?

- **RAID 0***
- RAID 8
- RAID 7
- RAID 4

38. A technician has been asked to configure several computers with RAID. The customer wants data to be stored on two drives that are used to maximum capacity and does not care if a single drive fails, because data is backed up hourly. Which RAID should the technician install?

- **RAID 0***
- RAID 8
- RAID 7
- RAID 4

39. A technician has been asked to configure several computers with RAID. The customer wants data to be stored on three drives and protection for one drive failure. Which RAID should the technician install?

- **RAID 5***
- RAID 2
- RAID 8
- RAID 7

40. A technician has been asked to configure several computers with RAID. The customer wants three drives to be used and protection if one drive fails. Which RAID should the technician install?

- **RAID 5***
- RAID 2
- RAID 4
- RAID 3

41. A technician has been asked to configure several computers with RAID. The customer wants to incorporate mirroring and striping as part of the RAID. Which RAID should the technician install?

- **RAID 10***
- RAID 3

- RAID 4
- RAID 2

42. A technician has been asked to configure several computers with RAID. The customer wants the best RAID possible with three drives used. Which RAID should the technician install?

- **RAID 6***
- RAID 3
- RAID 4
- RAID 2

43. A technician is selecting a PC that will be used by a user as a thin client. What is a major consideration that needs to be taken into account?

- **network connection to a server***
- multiple SCSI drives
- optical drive
- multiple touch screens

44. A technician is selecting a web server that will be used to host multiple gaming applications. What is a major consideration that needs to be taken into account?

- **powerful processor***
- multiple SCSI drives
- optical drive
- multiple touch screens

45. A technician is selecting a web server that will be used to host multiple gaming applications. What is a major consideration that needs to be taken into account?

- **powerful processor***
- read-only memory modules
- multiple touch screens
- multiple SCSI drives

46. A technician is selecting a PC that will be used by a songwriter to mix tracks. What is a major consideration that needs to be taken into account?

- **specialized audio card***
- dual-fan power supply
- smart card reader
- Thunderbolt connector

47. A technician is selecting a laptop that will be used by a teleworker for connecting to the internet while traveling anywhere. What is a major consideration that needs to be taken into account?

- **cellular card***
- Thunderbolt connector
- smart card reader
- dual-fan power supply

48. A technician is selecting a server that will be used by a cloud provider for data storage. What is a major consideration that needs to be taken into account?

- **multiple large hard drives***
- smart card reader
- Thunderbolt connector
- dual-fan power supply

49. A technician is selecting a server that will be used by a cloud provider to provide fault tolerance for large quantities of stored data. What is a major consideration that needs to be taken into account?

- **RAID***
- smart card reader
- Thunderbolt connector
- dual-fan power supply

50. A technician is selecting a server that will be used by a cloud provider to provide fault tolerance for large quantities of stored data. What is a major consideration that needs to be taken into account?

- **RAID***
- motherboard that supports dual-channeling
- smart card reader
- Thunderbolt connector

51. A technician is selecting a PC that will be used by an employee who wants to share a keyboard and mouse among three devices. What is a major consideration that needs to be taken into account?

- **KVM switch***
- motherboard that supports dual-channeling
- smart card reader
- Thunderbolt connector

52. A technician is selecting a PC that will be used by an employee who wants to share a keyboard and mouse among three devices. What is a major consideration that needs to be taken into account?

- **KVM switch***
- UEFI BIOS
- dual-fan power supply
- read-only memory modules

IT Essentials v6.0:

1. When a computer is being assembled, which action can be taken to help eliminate cable clutter within a computer case?

- Install a CPU without using a heat sink and fan assembly.
- Install a 2.5in HDD instead of a 3.5in HDD.
- **Install a modular power supply.***
- Install a motherboard without using standoffs in the case.

2. What is the best way to apply thermal compound when reseating a CPU?

- **Clean the CPU and the base of the heat sink with isopropyl alcohol before applying the thermal compound.***
- Use rubbing alcohol to clean the base of the heat sink before applying thermal compound.
- Scrape off the old thermal compound on the heat sink with a sharp knife and apply the thermal compound liberally.
- Put a thick layer of thermal compound over the existing thermal compound before reseating the CPU.
- Change the base of the heat sink before applying the thermal compound.

3. A technician is installing additional memory in a computer. How can the technician guarantee that the memory is correctly aligned?

- The label on the memory module should always face the CPU.
- **A notch in the memory module should be aligned with a notch in the memory slot.***
- The arrows on the memory module should be aligned with the arrows on the motherboard slot.
- Memory slots are color coded, with one end red and one end blue.

4. What is used to prevent the motherboard from touching metal portions of the computer case?

- an I/O shield
- thermal compound
- standoffs*
- ZIF sockets

5. Which statement describes the purpose of an I/O connector plate?

- **It makes the I/O ports of the motherboard available for connection in a variety of computer cases.***
- It plugs into the motherboard and expands the number of available slots for adapter cards.
- It provides multiple connections for SATA hard drives to connect to the motherboard.
- It connects the PCIe adapter slots used for video directly to the CPU for faster processing.

6. What are three important considerations when installing a CPU on a motherboard? (Choose three.)

- **Antistatic precautions are taken.***
- The CPU is correctly aligned and placed in the socket.*
- The CPU contacts are first cleaned with isopropyl alcohol.
- **The CPU heat sink and fan assembly are correctly installed.***
- The CMOS EPROM battery is removed prior to installing the CPU.
- Maximum insertion force is applied to the load lever so the CPU is locked in place.

7. Which type of drive is typically installed in a 5.25 inch (13.34 cm) bay?

- hard drive
- **optical drive***
- flash drive
- SSD

8. Which type of motherboard expansion slot has four types ranging from x1 to x16 with each type having a different length of expansion slot?

- **PCIe***
- AGP
- SATA
- PCI

9. A technician is installing a new high-end video adapter card into an expansion slot on a motherboard. What may be needed to operate this video adapter card?

- PCI expansion slot
- PCIe x 8 expansion slot
- **Two 8-pin power connectors***
- 24-pin ATX power connector

10. When assembling a PC, how is pin 1 identified on the front panel cables so that it can be aligned properly with pin 1 on the motherboard panel connector?

- **by a small arrow or notch***
- by a plus sign
- by a P1
- by a red cable

11. A technician has just finished assembling a new computer. When the computer is powered up for the first time, the POST discovers a problem. How does the POST indicate the error?

- **It issues a number of short beeps.***
- The LED on the front of the computer case flashes a number of times.
- It places an error message in the BIOS.
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12. What is a function of the BIOS?

- enables a computer to connect to a network
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- Windows configuration settings
- user login information
- device drivers

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- to allow a computer to run multiple operating systems in files or partitions
- to change the order of the bootable partitions
- to disable devices that are not needed or used by the computer
- **to allow the computer to run slower and cooler***

18. A technician is assembling a new computer. Which two components are often easier to install before mounting the motherboard in the case? (Choose two.)

- CPU*

- **memory***
- NIC
- sound card
- video card

19. Which two components are commonly replaced when a computer system with a newer motherboard is being upgraded? (Choose two.)

- **RAM***
- hard disk drive
- **CPU***
- optical drive
- CMOS battery
- adapter card

20. A user reports that every morning when a particular computer is turned on, the configuration settings on that computer have to be reset. What action should be taken to remedy this situation?

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- **Replace the CMOS battery.***
- Move the jumpers
- Upgrade the BIOS.

21. What are two reasons for installing a second hard disk drive inside an existing computer? (Choose two.)

- **to support a RAID array***
- to store BIOS configuration settings
- **to store the system swap file***
- to increase CPU speed
- to allow access to a secondary display output

22. When should a technician use unsigned drivers for newly installed computer hardware?

- if the unsigned driver is the most current driver available
- if the original installation media is not available
- **if the source of the drivers is trusted by the technician***
- if the Windows installation media does not contain a valid signed driver

23. What computer component is often required to allow a single computer to use two monitors simultaneously?

- an extra power supply
- **a second video adapter card***
- an extra USB connection
- a KVM switch

24. A technician notices that half of the memory slots on a motherboard are colored differently from the other half. Which technology is probably implemented on this system?

- virtualization
- ECC
- **dual channeling***
- double-sided

[Older Version:](#)

25. A technician is troubleshooting a PC that will not boot. When the PC is powered on, it emits a series of beeps and indicates that the BIOS settings have changed and need to be reconfigured. The technician reconfigures the BIOS settings, saves them, and the computer boots. Later when the PC is powered off and back on again, the same error message appears, and all the BIOS changes are gone. What should the technician do to fix the problem?

- Reseat the RAM.
- Replace the motherboard.
- Upgrade the BIOS firmware.
- **Replace the CMOS battery.***

26. What type of connector would be used to supply power to an PATA optical drive?

- PS/2
- AT
- Berg
- Molex*

27. You are monitoring a new technician who is installing a device driver on a Windowsbased PC. The technician asks why the company requires the use of signed drivers. What would be the best response to give?

- A signed driver has been approved by the company that created the device driver.
- **A signed driver has passed the lab test of Microsoft for quality and helps prevent a system from being compromised.***
- An unsigned driver can cause files to be fragmented as they are processed.
- Signed drivers prevent physical damage to devices.

28. What is an important step when installing a second PATA hard drive in a computer?

- Set the drive ID number with the correct jumper.
- **Ensure that pin one of the PATA data cable is correctly aligned with the connector.***
- Configure the BIOS settings to auto-detect the master drive.
- Set the swap file size on the new drive.
- All companies making devices for a Windows computer have to have Microsoft sign off on the new driver before it can be added to the operating system.

29. What number of disks is the required minimum to implement RAID 0?

- **2***
- 1
- 3
- 4

30. A technician is troubleshooting a computer that has a malfunctioning floppy drive. The technician observes that the floppy drive light remains lit constantly. What should the technician do to repair the problem?

- **Connect the data cable making sure that the colored stripe on the cable is aligned with pin 1 on the drive and the motherboard.***
- Remove the floppy drive via Add/Remove Hardware.
- Change the jumper setting to master for the floppy drive.
- Replace the floppy drive.

31. What is an advantage of using signed drivers?

- They never need upgrading.
- **They are verified to be compatible with the operating system.***
- They are guaranteed by the manufacturer to work with any hardware.

- They are guaranteed to work with all operating systems.
- They are free of errors.

32. Where is the saved BIOS configuration data stored?

- hard drive
- cache
- **CMOS***
- RAM

33. What are two examples of settings that can be changed in the CMOS settings? (Choose two.)

- swap file size
- **boot order***
- **enabling and disabling devices***
- device drivers
- drive partition size

34. A technician discovers that the PS/2 mouse port is not working. The technician has several replacement mouse models available. What input port will the technician use to install the replacement mouse?

- parallel
- **USB***
- FireWire
- eSATA

35. A technician has been asked to install a second optical drive in a computer. The technician will need to configure the drive as slave. How can the technician accomplish this desired configuration?

- **Use jumpers on the drive to configure the drive as slave.***
- Use jumpers on the motherboard to configure the drive as slave.
- List the drive as slave in the CMOS.
- Connect the drive after the twist in the PATA cable.