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| **True / False** |

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| 1. Servers that have a NOS installed require less memory, processing power, and storage capacity than clients because servers are called on to handle only light processing loads and requests from multiple clients.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Network Models | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.1 - Distinguish between client-server and peer-to-peer networks | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 2. The fundamental difference between a switch and a router is that a switch belongs only to its local network and a router belongs to two or more local networks.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Network Hardware | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.3 - Describe various networking hardware devices and the most common physical topologies | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 1:06 PM | |

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| 3. After a problem and its symptoms have been identified, a theory regarding a probable cause should be established.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Troubleshooting Network Problems | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.6 - Describe the seven-step troubleshooting model for solving a networking problem | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 4. Static electricity is an electrical charge in motion.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 5. The protocol data unit for the Physical layer of the OSI model is payload, or data.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 6. The term firmware refers to programs embedded into hardware devices. This software only changes when a firmware upgrade is performed.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.3 - Describe various networking hardware devices and the most common physical topologies | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 7. The Data Link layer attaches a trailer to the end of a packet, and does not include a header.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 8. The Transport layer header addresses a receiving application by a number called a MAC address.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficult | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 9. The Transmission Control Protocol (TCP) is considered to be a connectionless, or best-effort delivery protocol.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 10. In general, an API (application programming interface) call is the method an application uses when it makes a request of the OS.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| **Multiple Choice** |

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| 11. HTTP, IMAP4, FTP, and Telnet are all examples of protocols that operate at what layer of the OSI model?   |  |  |  | | --- | --- | --- | |  | a. | Layer 4 | |  | b. | Layer 5 | |  | c. | Layer 6 | |  | d. | Layer 7 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 12. What layer of the OSI model describes how data between applications is synced and recovered if messages don't arrive intact at the receiving application?   |  |  |  | | --- | --- | --- | |  | a. | Application Layer | |  | b. | Presentation Layer | |  | c. | Session Layer | |  | d. | Transport Layer |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 13. The Data Link Layer utilizes what name for its protocol data unit (PDU)?   |  |  |  | | --- | --- | --- | |  | a. | packet | |  | b. | data | |  | c. | bit | |  | d. | frame |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 14. What statement accurately reflects what occurs when a message is too large to transport on a network?   |  |  |  | | --- | --- | --- | |  | a. | The message is discarded and must be sent again. | |  | b. | The message is sent anyway, and is received by the destination as garbage data. | |  | c. | The message is divided into smaller messages called segments (for TCP) or datagrams (for UDP). | |  | d. | An ICMP error is generated, and the application must reformat the data for transmission. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 15. What is a defining characteristic of a bus topology based network?   |  |  |  | | --- | --- | --- | |  | a. | Devices are connected to two adjacent devices, and communication priority is granted by a token. | |  | b. | Devices are connected directly to a centralized networking device, known as a network switch. | |  | c. | Devices are daisy-chained together in a single line. | |  | d. | Devices are directly attached to a network router, which forwards data to intended destinations. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Network Hardware | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.3 - Describe various networking hardware devices and the most common physical topologies | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 16. If your network consists of all connected devices connecting to one central device, such as a switch, what type of topology is being used?   |  |  |  | | --- | --- | --- | |  | a. | bus topology | |  | b. | star topology | |  | c. | star bus topology | |  | d. | mesh topology |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Network Hardware | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.3 - Describe various networking hardware devices and the most common physical topologies | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 17. The proper handling procedures for substances such as chemical solvents is typically outlined in which of the following options?   |  |  |  | | --- | --- | --- | |  | a. | Toxic Chemical Safety Procedure (TCSP) | |  | b. | Dangerous and Hazardous Waste Disposal Sheet (DHWDS) | |  | c. | Environmental Chemical Hazard Sheet (ECHS) | |  | d. | Material Safety Data Sheet (MSDS) |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 18. A policy in which all exit doors for a building stay unlocked during a fire is an example of what type of policy?   |  |  |  | | --- | --- | --- | |  | a. | fail-open | |  | b. | fail-close | |  | c. | fail-tolerant | |  | d. | fail-oriented |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 19. An open electrical circuit as a result of a failed circuit breaker is considered to be what type of failure system?   |  |  |  | | --- | --- | --- | |  | a. | fail-open | |  | b. | fail-close | |  | c. | fail-tolerant | |  | d. | fail-dynamic |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficult | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 20. At what layer of the OSI model does a network switch normally operate?   |  |  |  | | --- | --- | --- | |  | a. | Layer 2 | |  | b. | Layer 3 | |  | c. | Layer 4 | |  | d. | Layer 5 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 21. Which of the following is not one of the disadvantages of peer-to-peer networks?   |  |  |  | | --- | --- | --- | |  | a. | They lack scalability. | |  | b. | They are not necessarily secure. | |  | c. | They are impractical for connecting large numbers of computers. | |  | d. | They centralize user account logins. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Network Models | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.1 - Distinguish between client-server and peer-to-peer networks | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 22. At what layer of the OSI model do the IP, ICMP, and ARP protocols operate?   |  |  |  | | --- | --- | --- | |  | a. | Application | |  | b. | Session | |  | c. | Transport | |  | d. | Network |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 23. In considering the responsibilities of each layer of the OSI model, what statement accurately reflects those of the Presentation layer?   |  |  |  | | --- | --- | --- | |  | a. | The Presentation layer describes the interface between two applications, each on separate computers. | |  | b. | The Presentation layer is responsible for reformatting, compressing, and/or encrypting data in a way that the application on the receiving end can read. | |  | c. | The Presentation layer is responsible for describing how data between applications is synced and recovered if messages don't arrive intact at the receiving application. | |  | d. | The Presentation layer is responsible for transporting Application layer payloads from one application to another. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficult | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 24. Which of the following is an example of encapsulation?   |  |  |  | | --- | --- | --- | |  | a. | The addition of a header to data inherited from the layer above in the OSI model. | |  | b. | The subtraction of a header from data inherited from the layer below in the OSI model. | |  | c. | The modification of headers from a higher layer in the OSI model. | |  | d. | The addition of a trailer to data inherited from the layer above in the OSI model. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 25. What mail protocol is used to send mail messages to a server?   |  |  |  | | --- | --- | --- | |  | a. | POP3 | |  | b. | IMAP4 | |  | c. | SMTP | |  | d. | HTTPS |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Client-Server Applications | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 26. What is the most popular web server application?   |  |  |  | | --- | --- | --- | |  | a. | Microsoft Internet Information Services | |  | b. | NGINX | |  | c. | Lighttpd | |  | d. | Apache |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Client-Server Applications | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 27. The TCP and UDP protocols both exist at what layer of the OSI model?   |  |  |  | | --- | --- | --- | |  | a. | Application | |  | b. | Presentation | |  | c. | Transport | |  | d. | Network |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 28. The frame header at the Data Link layer includes hardware addresses of the source and destination NICs. What is another name for this address?   |  |  |  | | --- | --- | --- | |  | a. | MAC (Media Access Control) address | |  | b. | DAC (Data Access Control) address | |  | c. | DAC (Digital Access Control) address | |  | d. | PAC (Packet Access Control) address |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 29. In the TCP/IP model, what layer is considered so simple that it is ignored entirely?   |  |  |  | | --- | --- | --- | |  | a. | Application | |  | b. | Network | |  | c. | Physical | |  | d. | Data Link |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 30. What federal agency is charged with safety and health in the workplace?   |  |  |  | | --- | --- | --- | |  | a. | Occupational Safety and Health Administration (OSHA) | |  | b. | Workplace Safety and Hazard Administration (WSHA) | |  | c. | Office Safety and Standards Department (OSSD) | |  | d. | Hazardous Materials and Safety Management (HMSM) |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 31. What is the minimal amount of voltage required to damage an electrical component?   |  |  |  | | --- | --- | --- | |  | a. | 5 volts | |  | b. | 10 volts | |  | c. | 100 volts | |  | d. | 1500 volts |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 32. When dealing with static electricity, what kind of failure caused by static discharge shortens the life of a component, and can cause intermittent errors?   |  |  |  | | --- | --- | --- | |  | a. | catastrophic failure | |  | b. | interrupting failure | |  | c. | upset failure | |  | d. | temporary failure |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 33. In the TCP/IP model, what layer combines the responsibilities of the Application, Presentation, and Session layers from the OSI model?   |  |  |  | | --- | --- | --- | |  | a. | Application | |  | b. | Internet | |  | c. | Transport | |  | d. | Link |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 34. What occurs if a network layer protocol is aware that a packet is larger than the maximum size for its network?   |  |  |  | | --- | --- | --- | |  | a. | The protocol will notify a network router capable of receiving the packet, and a new path will be used to the destination. | |  | b. | The protocol will send an ICMP message to the destination, requesting a larger packet size be allowed. | |  | c. | The packet will be dropped silently, requiring the communicating application try again. | |  | d. | The packet will be divided into smaller packets using fragmentation. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficult | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 35. In a fire suppression system, what term is used to describe what is typically a foaming chemical, gas, or water that is sprayed everywhere to put out a fire?   |  |  |  | | --- | --- | --- | |  | a. | fire extinction agent | |  | b. | fire suppression agent | |  | c. | extinguishing medium | |  | d. | eliminating factor |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 36. In the United States, who is able to activate the Emergency Alert System at the national level?   |  |  |  | | --- | --- | --- | |  | a. | Any U.S. state or territory | |  | b. | The Federal Bureau of Investigation | |  | c. | The President | |  | d. | Local law enforcement |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 37. What is assigned to each node on a network, which is then used by the Network layer to uniquely identify the node?   |  |  |  | | --- | --- | --- | |  | a. | MAC address | |  | b. | IP address | |  | c. | port address | |  | d. | autonomous system address |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 38. What Application layer protocol can be used to monitor and gather information about network traffic and can alert network administrators about adverse conditions that need attention?   |  |  |  | | --- | --- | --- | |  | a. | HTTP | |  | b. | POP3 | |  | c. | SNMP | |  | d. | SMTP |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 39. The Windows Remote Desktop application utilizes what protocol to provide secure, encrypted transmissions?   |  |  |  | | --- | --- | --- | |  | a. | File Transfer Protocol (FTP) | |  | b. | Secure Sockets Layer (SSL) | |  | c. | Secure Shell (SSH) | |  | d. | Remote Desktop Protocol (RDP) |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Client-Server Applications | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 40. In a domain, the process of allowing a user to sign on to the network from any computer on the network and get access to resources is managed by what service?   |  |  |  | | --- | --- | --- | |  | a. | Active Directory Federated Users (AD FU) | |  | b. | Active Directory Domain Services (AD DS) | |  | c. | Automated Directory Network Services (AD NS) | |  | d. | Windows Named Resource Services (WN RS) |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Network Models | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| **Subjective Short Answer** |

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| 41. What are the differences between the POP3 and IMAP4 protocols?   |  |  | | --- | --- | | *ANSWER:* | Using the POP3 (Post Office Protocol, version 3), email is downloaded to the client computer. When using IMAP4 however, the client application manages the email while it's stored on the server. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Client-Server Applications | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 42. What are some of the typical elements that might be present in a fire suppression system, and what do they do?   |  |  | | --- | --- | | *ANSWER:* | A fire suppression system in a data center typically includes the following: \* emergency alert system-These systems vary, but they typically generate loud noise and flashing lights. Some send text and voice message alerts to key personnel, and post alerts by email, network messages, and other means. \* portable fire extinguishers-Note that electrical fires require a Class C fire extinguisher. \* emergency power-off switch-Don't use a power-off switch unless you really need to; improper shutdowns are hard on computers and their data. \* suppression agent-This can consist of a foaming chemical, gas, or water that sprays everywhere to put out the fire. | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficult | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 43. What is the difference between a WAN, MAN, CAN, and a PAN?   |  |  | | --- | --- | | *ANSWER:* | A group of LANs that spread over a wide geographical area is called a WAN (wide area network). A group of connected LANs in the same geographical area-for example, a handful of government offices surrounding a state capitol building-is known as a MAN (metropolitan area network) or CAN (campus area network). The smallest network is a PAN (personal area network), which is a network of personal devices, such as the network you use when you sync your smartphone and your computer. | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Network Hardware | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.3 - Describe various networking hardware devices and the most common physical topologies | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 44. What are some of the tasks for which a network operating system is responsible?   |  |  | | --- | --- | | *ANSWER:* | A network operating system is typically responsible for the following: \* Managing data and other resources for a number of clients \* Ensuring that only authorized users access the network \* Controlling which types of files a user can open and read \* Restricting when and from where users can access the network \* Dictating which rules computers will use to communicate \* In some situations, supplying applications and data files to clients | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Network Models | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.1 - Distinguish between client-server and peer-to-peer networks | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 45. What is a remote application, and how can remote applications be implemented on Windows Server?   |  |  | | --- | --- | | *ANSWER:* | A remote application is an application that is installed and executed on a server and is presented to a user working at a client computer. Windows Server 2008 and later versions include Remote Desktop Services to manage remote applications, and versions of Windows Server prior to 2008 provided Terminal Services. Both use RDP (Remote Desktop Protocol) to present the remote application and its data to the client. | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Client-Server Applications | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.1 - Distinguish between client-server and peer-to-peer networks | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 46. Explain the differences between a physical topology and a logical topology.   |  |  | | --- | --- | | *ANSWER:* | The term physical topology, or network topology, mostly applies to hardware and describes how computers, other devices, and cables fit together to form the physical network. The term logical topology has to do with software and describes how access to the network is controlled, including how users and programs initially gain access to the network and how specific resources, such as applications and databases, are shared on the network. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Network Models | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.3 - Describe various networking hardware devices and the most common physical topologies | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 47. Describe how the Transmission Control Protocol (TCP) and User Datagram Protocol (UDP) differ from each other, and provide examples of where each might be used.   |  |  | | --- | --- | | *ANSWER:* | The Transmission Control Protocol (TCP) makes a connection with the end host, checks whether the data is received, and resends it if it is not. TCP is, therefore, called a connection-oriented protocol. TCP is used by applications such as Web browsers and email. Guaranteed delivery takes longer and is used when it is important to know that the data reached its destination. The User Datagram Protocol (UDP) does not guarantee delivery by first connecting and checking whether data is received; thus, UDP is called a connectionless protocol or best-effort protocol. UDP is used for broadcasting, such as streaming video or audio over the Web, where guaranteed delivery is not as important as fast transmission. UDP is also used to monitor network traffic. | | *POINTS:* | 1 | | *DIFFICULTY:* | Difficult | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.2 - Identify types of applications and protocols used on a network | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 48. How can you prevent damage to a component prior to touching it?   |  |  | | --- | --- | | *ANSWER:* | Before touching a component, first ground yourself using one of these methods: \*Wear an ESD strap around your wrist that clips onto the chassis or computer case, which eliminates any ESD between you and the chassis and its components. \*If you don't have an ESD strap handy, be sure to at least touch the case before you touch any component inside the case. This is not as effective as wearing an ESD strap, but can reduce the risk of ESD. \*To protect a sensitive component, always store it inside an antistatic bag when it's not in use. In addition to protecting against ESD, always shut down and unplug a computer before working inside it. | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 49. What are some general OSHA guidelines to use when using power (electric) tools or other hand tools in the workplace?   |  |  | | --- | --- | | *ANSWER:* | Some general OSHA guidelines for using power tools or other hand tools in the workplace are as follows: \*Wear personal protective equipment (PPE) to protect yourself as you work. For example, wear eye protection where dust or fumes are generated by power tools. \*Keep all tools in good condition and properly store tools not in use. Examine a tool for damage before you use it. \*Use the right tool for the job and operate the tool according to the manufacturer's instructions and guidelines. Don't work with a tool unless you are trained and authorized to use it. \*Watch out for trip hazards, so you and others don't stumble on a tool or cord. For example, keep power tool electrical extension cords out from underfoot, and don't leave hand tools lying around unattended. | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | Safety Procedures and Policies | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.5 - Explain best practices for safety when working with networks and computers | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |

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| 50. Explain the two different categories of Application layer protocols, and then detail the PDU used at this layer.   |  |  | | --- | --- | | *ANSWER:* | Application layer protocols are used by programs that fall into two categories: \*Application programs that provide services to a user, such as a browser and Web server using the HTTP Application layer protocol \*Utility programs that provide services to the system, such as SNMP (Simple Network Management Protocol) programs that monitor and gather information about network traffic and can alert network administrators about adverse conditions that need attention. Data that is passed between applications or utility programs and the operating system is called a payload and includes control information. The two end-system computers that initiate sending and receiving data are called hosts. | | *POINTS:* | 1 | | *DIFFICULTY:* | Moderate | | *REFERENCES:* | The Seven-Layer OSI Model | | *QUESTION TYPE:* | Subjective Short Answer | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 1.4 - Describe the seven layers of the OSI model | | *DATE CREATED:* | 1/27/2018 12:47 PM | | *DATE MODIFIED:* | 1/27/2018 12:47 PM | |