

Specific Competencies and Skills continued:

Network Terminology

- Demonstrate familiarity with various protocols and architecture
- Identify various network operating systems (i.e., Novell, Linux, Apple, Mac)
- Identify various area network types

Network Architecture

- Exhibit understanding of various network architectures
- Exhibit understanding of various LAN Topologies
- Exhibit understanding of various MAN and WAN topologies

Network Addressing

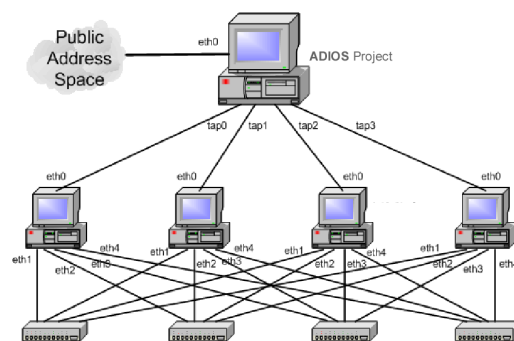
- Exhibit knowledge of TCP/IP network addressing (i.e., IPV4-6)
- Differentiate between TCP/IP network classes (i.e., CIDR)
- Demonstrate understanding of Media Access Control (MAC) addressing
- Identify various protocols

Security

- Demonstrate understanding of physical security issues and solutions
- Demonstrate understanding of logical security issues and solutions

Network Design

- Exhibit understanding of analysis and planning concepts
- Demonstrate understanding and importance of logical design
- Demonstrate understanding and importance of physical design
- Exhibit familiarity of implementation methods
- Demonstrate understanding of various access methods (i.e., VPN, HTTPS)
- Identify uses of virtual machines

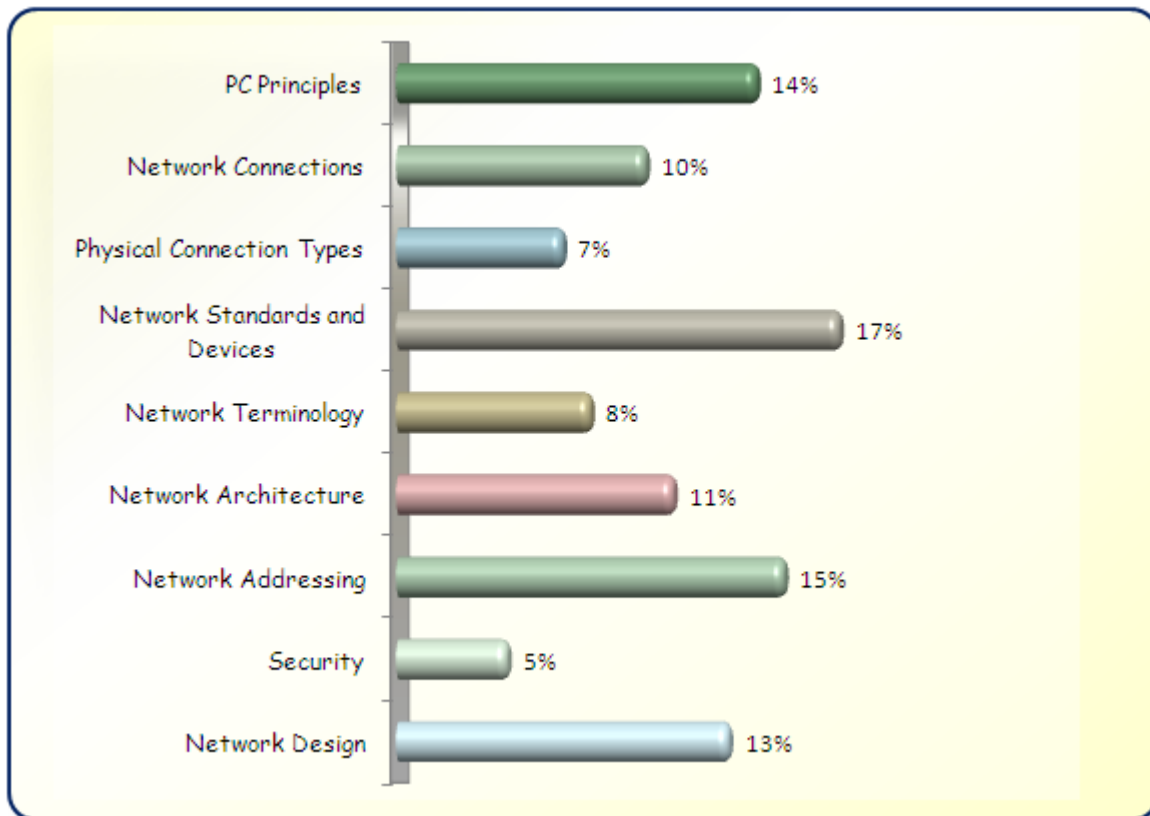


Written Assessment:

Administration Time: 3 hours

Number of Questions: 162

Areas Covered:



Sample Questions:

FireWire IEEE 1394a supports speeds up to

- A. 480 Mbps
- B. 480 MBps
- C. 1.2 Gbps
- D. 1.2 GBps

IEEE 802.11 standards specify

- A. Token Ring
- B. wireless networks
- C. FDDI
- D. multicasting

Hubs are

- A. multi-port bridges
- B. signal amplifiers
- C. signal regenerators
- D. multi-port repeaters

A WAN connection method introduced by Bell Laboratories in the mid-1990s is known as

- A. T3
- B. DSL
- C. T1
- D. ISDN

The default type of IP addressing in a virtual machine is

- A. static
- B. Class A
- C. Class B
- D. dynamic



Performance Assessment:

Administration Time: 2 hours

Number of Jobs: 2

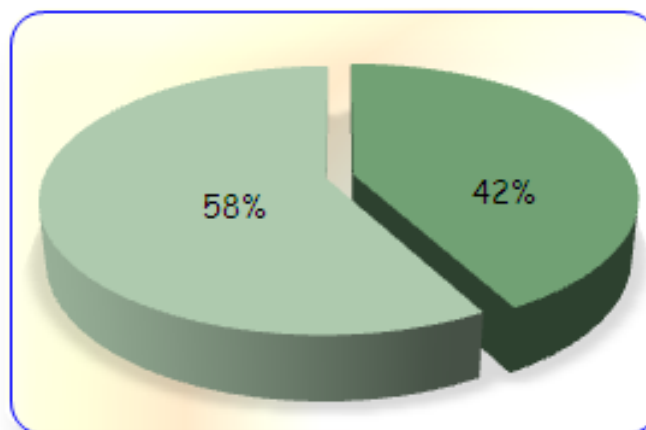
Areas Covered:

42% **Select and Connect Equipment, Set Up Simple LAN with Two Workstations**

Select the appropriate equipment, create a simple LAN with two workstations, configure IP addresses, record information (first and second workstations), verify IP connectivity from each workstation using a command line utility, and leave IP connectivity results on screen.

58% **Set Up a Workgroup, Create Users and Shares, Install a Printer**

Name the two workstations, set up a workgroup named NOCTI, create User1 and User2 on WS2, create Private and Public folders/directories at the file structure root of WS1, create and share for the Private folder/directory, on WS1, grant Full Control permissions on Public folder/directory for everyone, from WS2, verify User1 access to Private folder/directory on WS1, from WS2, verify User2 access to Public folder/directory on WS1. On WS1, install HP 2000C printer, name printer share WS1_printer, and assign only User2 printing rights to printer on WS1.



Sample Job: Select and Connect Equipment, Set Up Simple LAN with Two Workstations

Maximum Time: 1 hour

Participant Activity: The participant will select the appropriate equipment and use it to create a simple LAN with two workstations. Configure the IP addresses using private Class C addressing, subnet mask, gateway, and DNS server(s). Record the results for workstation one and two. Verify IP connectivity from each workstation using a command line utility. Leave the IP connectivity results on the screen for evaluator view. Verify that everything is correctly set up and works according to specifications.



The Association for Career and Technical Education (ACTE), the leading professional organization for career and technical educators, commends all students who participate in career and technical education programs and choose to validate their educational attainment through rigorous technical assessments. In taking this assessment you demonstrate to your school, your parents and guardians, your future employers and yourself that you understand the concepts and knowledge needed to succeed in the workplace. Good Luck!

