

CUSTOMIZED TEACHER ASSESSMENT BLUEPRINT

COMPUTER TECHNOLOGY/COMPUTER SYSTEMS

Test Code: 5999 Version: 01

Specific competencies and skills tested in this assessment:

Personal and Environmental Safety

Review safety data sheets (SDS) and explain their requirements in handling hazardous materials Describe types of fire extinguishers and explain which types to use for extinguishing various fires Demonstrate safe procedures to follow when lifting and carrying heavy objects Identify potential hazards when working with power supplies Identify proper disposal procedures for batteries and display devices Configure a computer's power management settings to maximize energy efficiency Maintain a safe work area to avoid common accidents and injuries

Computing Fundamentals

Identify the various types of computers people use in the modern world Identify appropriate computer equipment and peripherals for given a specific situation and budget Describe the interaction between software and hardware Identify the functions of an operating system Describe the various components of a graphical user interface based operating system

Productivity Software

List and describe several common application software suites Demonstrate the ability to print documents using applications software

Internet Applications

Describe appropriate email etiquette

Describe common ethical issues with downloading legal and illegal documents software Demonstrate how to use a web browser to effectively search the Internet and retrieve specified information Describe common uses of cloud computing for work, school, and home

Computer Hardware

Describe and categorize storage devices and backup media Explain the operation of a motherboard and its components, types, and features Explain the purpose and characteristics of CPUs and their functions Explain cooling methods and devices Compare and contrast memory types, characteristics, and their purpose Explain the characteristics of various monitors, and display devices Explain the function and types of adapter cards Explain the purpose of CPU and case fans air flow directions

Troubleshooting, Repair, and Maintenance

Describe and explain troubleshooting theory

Describe, explain, and interpret common hardware and operating system symptoms and their causes Describe and determine the troubleshooting methods and tools for printers Describe and interpret common laptop issues and determine appropriate basic troubleshooting method Describe and apply common preventative maintenance techniques for computers

Operating Systems and Software

Compare and contrast the different operating systems and their features Given a scenario, demonstrate proper use of user interfaces Explain the process and steps to install and configure an operating system Explain the basics of boot sequences, methods, and startup utilities Select appropriate commands and options to troubleshoot and resolve problems Explain the difference between various operating system directory structures Identify and use system utilities/tools and evaluate the results Evaluate and resolve common OS (Operating System) and software issues

Networking

Describe common types of computer networks based on their scope of coverage Describe how computer networks, telephone networks, and the Internet are related Define networking fundamentals, technologies, devices, and protocols Describe, fabricate, and test network cables and connectors Compare and contrast various types of wired and wireless networks Demonstrate how to use the appropriate tools to troubleshoot problems of network connectivity

Security

Explain the ethical, legal, and security issues related to handling data Identify security features including wireless encryption, and malicious software protection Identify security, password management, locking workstations, and biometrics Troubleshoot, remove, and prevent viruses and malware Implement security and troubleshoot common issues Describe ethical, security, and privacy issues involved in posting personal information

Customer Service

Demonstrate the use of effective communication with customers Utilize the team approach to deliver customer service

Written Assessment:

Administration Time:	3 hours
Number of Questions:	195

Areas covered:

10%	Personal and Environmental Safety
7%	Computer Fundamentals
3%	Productivity Software
5%	Internet Applications
16%	Computer Hardware
16%	Troubleshooting, Repair, and Maintenance
17%	Operating Systems and Software
13%	Networking
10%	Security
3%	Customer Service

Sample Questions:

What class of fire extinguisher should be used in an electrical or computer fire?

- A. Class A
- B. Class B
- C. Class C
- D. Class D

A device that continually protects a PC against electrical spikes and provides backup power is a/an

- A. UPS
- B. AC97
- C. SPS
- D. DSP

A/An _____ storage device uses a laser beam to read and write data.

- A. optical
- B. solid state
- C. external
- D. magnetic

A critical component to effective teamwork is

- A. arrogance
- B. mirroring
- C. role playing
- D. preparation

Peer-to-peer networks

- A. do not share resources
- B. allow workstations to share and access resources without a dedicated server
- C. are optimized for sharing resources from a single computer with many users
- D. are remotely administered

What software is required to access .pdf files?

- A. Real Player
- B. Direct X
- C. Acrobat Reader
- D. Internet Explorer

The use of all caps in an email message is commonly understood as

- A. laziness
- B. important
- C. shouting
- D. humorous

The final step a technician takes when troubleshooting a user's problem is

- A. test theories
- B. document the solution
- C. develop an action plan
- D. gather information

Which of the following operating systems is considered open source?

- A. Windows[®] 7
- B. OS X
- C. LINUX
- D. UNIX

A computer designed to handle client print jobs in the most efficient manner is a

- A. PC shared printer
- B. client access printer
- C. dedicated print server
- D. network plan

Performance Assessment:

Administration Time:	2 hours and 35 minutes
Number of Jobs:	4

Areas Covered:

19%	<u>Components and Tools Identification</u>	
	Participants will identify a variety of computer components and tools and	
	record the name of each item.	
19%	Assemble a Network Cable	
	Participants will use proper safety procedures to select materials and	
	construct a straight-through patch cable according to industry standards	
	construct a straight intough paten cubic according to maastry standards.	
39%	Troubleshooting and Software Installation	
5770	Participants will diagnose and repair a computer that will not boot to a	
	new hard drive. Stops will include creating a limited user account with	
	new hard unive. Steps will include creating a limited user account with	
	pussword, veryying the network curd is property installed, and installing a	
	virus protection software package.	
220/	Using Productivity Software	
2370	Participants will use a word processing application to prepare a computer	
	rancipants with use a word processing application to prepare a computer	
	repair accument. Steps with include using johi, margins, and cupart jues	
	as shown in the example provided.	
Sample Job:	Components and Tools Identification	
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Maximum Job Time:	25 minutes	
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Participant Activity: Participants will identify each feature or component of the computer and record the name next to the correct letter. Participants will complete the same process identifying computer tools.