General Computer Knowledge and Concepts
Identify and convert between different number systems (e.g., binary, hexadecimal, decimal)
Define basic computer terminology
Demonstrate understanding of troubleshooting skills
Identify and apply general safety procedures
Demonstrate familiarity with basic task management, prioritization, and planning
Demonstrate the ability to research and resolve common computer issues using various resources
Demonstrate knowledge of "green" IT practices including waste disposal

Hardware Knowledge
Identify various hardware components
Exhibit knowledge of input and output devices
Differentiate between servers, workstations, and virtual clients
Identify types and components of mobile devices
Demonstrate understanding of different printing technologies
Demonstrate knowledge of expansion cards
Demonstrate knowledge of display devices
Identify various types of storage devices and interfaces

Software Knowledge
Exhibit familiarity with operating systems command line scripting
Demonstrate ability to install and maintain computer software and applications
Apply knowledge of email software
Demonstrate knowledge of web browsing software security and features
Demonstrate familiarity with utility software
 Demonstrate familiarity with mobile device operating systems and features
Computer Technology - PILOT (continued)

**Network and Data Communications**
- Recognize various network types and topologies
- Identify network protocols and LAN access methods
- Demonstrate familiarity with network services
- Identify various wireless technologies and standards
- Identify various cabling technologies and standards
- Identify various Internet connectivity methods
- Display knowledge of communication devices
- Demonstrate knowledge of cloud computing
- Identify the function of reference models
- Demonstrate understanding of addresses used in computer networking

**Security**
- Exhibit knowledge of security preventive techniques
- Exhibit knowledge of secure PKI, SSL, and Web communications
- Exhibit knowledge of physical security techniques
- Identify various security threats and vulnerabilities
- Demonstrate knowledge of wireless security

**Professional Standards, Ethics, and Business Practices**
- Identify professional standards and etiquette, including social media
- Demonstrate awareness of copyright laws, licensing, and intellectual freedoms and properties
- Identify characteristics of computer ethics
- Demonstrate effective technical and professional communication skills
Written Assessment:

Administration Time: 3 hours
Number of Questions: 185

Areas Covered:

18% General Computer Knowledge and Concepts
17% Hardware Knowledge
15% Software Knowledge
23% Network and Data Communications
16% Security
11% Professional Standards, Ethics, and Business Practices

Sample Questions:

A common way to represent a network's topology and nodes is by using a
A. flowchart
B. structure diagram
C. network diagram
D. node list

DSL service is offered by
A. cellular phone companies
B. wireless providers
C. cable companies
D. telephone companies

A boot sector virus generally stores itself in the
A. MBR
B. FAT
C. UEFI
D. BIOS

What is the first thing a user should do to secure a new wireless router?
A. change the SSID
B. change the router username and password
C. turn off the guest network
D. disable SSID broadcast

When someone purchases software from a software vendor, that person has purchased a
_____ for the software.
A. license
B. lease
C. copyright
D. DMCA
Computer Technology - PILOT (continued)

PCI stands for
A. Personal Computer Inventory
B. Peripheral Cable Integration
C. Project Centered Inventory
D. Peripheral Component Interconnect

Parallel communication can
A. simultaneously transfer multiple bits
B. transfer data in only one direction
C. process multiple bits
D. rapidly transfer one bit at a time

The main power connection on a motherboard is called
A. Berg
B. Molex
C. Aux
D. ATX

Of the following choices, an optimal refresh rate for a monitor is between
A. 75 Hz and 85 Hz
B. 75 kHz and 85 kHz
C. 75 mHz and 85 mHz
D. 75 gHz and 85 gHz

A secure Windows disk file system must use
A. NTFS
B. FAT32
C. FAT16
D. HPFS
Computer Technology - PILOT (continued)

Performance Assessment:

Administration Time: 3 hours 30 minutes
Number of Jobs: 4

Areas Covered:

32% Basic Network Configuration
Participant will connect computer to router, obtain IP address, set the name, configure required items, connect second computer, obtain IP address, set name of second computer, display IPv4 address, create a homegroup, notify evaluator, and return all materials to pre-test condition.

28% Troubleshooting
Using the correct tools and safety procedures, participant will attempt to turn on computer, and diagnose, record, and correct problems. Participant will verify the computer is working, and replace cover.

20% Hardware Installation
Using the correct tools and safety procedures, participant will install a second hard drive, verify functionality, assign a drive letter, name, format the drive, and display its configuration for the evaluator.

20% Computer Maintenance
Participant will turn on computer and boot, access disk management utility, and run clean up. Participant will run disk optimization, and create restore point. Participant will install software, revert to the restore point created, and notify evaluator to score each step.

Sample Job: Hardware Installation

Maximum Job Time: 45 minutes

Participant Activity: The participant will choose correct tools to install a second hard drive, verify the functionality, assign a drive letter, give the drive a specific name, format the drive, and open the disk management screen to display its configuration for evaluator.