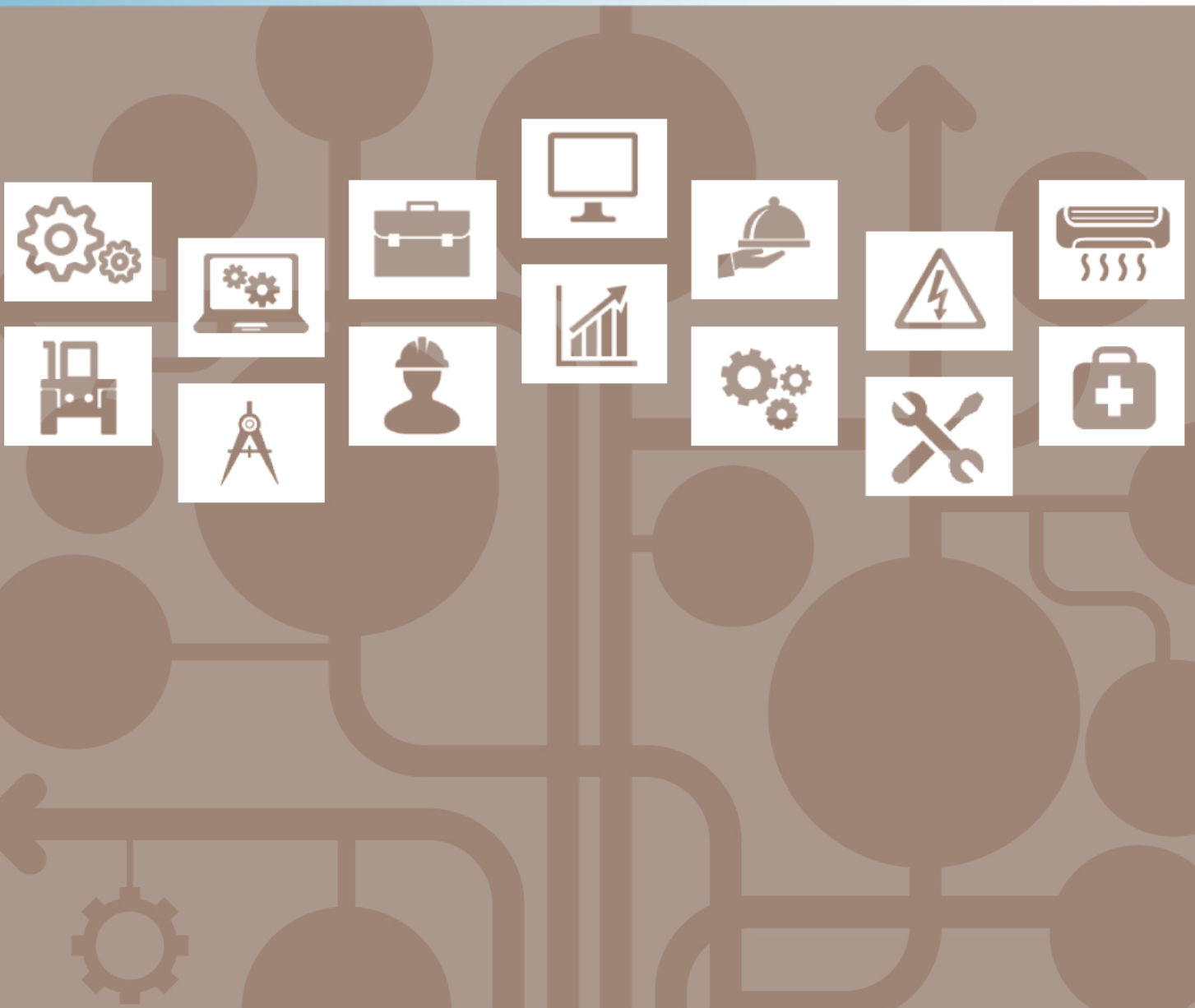


*Entry Level Assessment Blueprint*

*Computer Technology*



## ***Specific Competencies and Skills Tested in this Assessment:***

### **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 (e.g., Internet, confidentiality, user policies, billing practices, etc.)
- Demonstrate effective technical and professional communication skills

### **General Computer Knowledge and Concepts**

- Identify and convert between different number systems (i.e., binary, hexadecimal, octal, decimal, etc.)
- Identify basic computer terminology (e.g., software, hardware, networking, and security)
- Identify basic concepts of computer programming (e.g., flow charts, general knowledge, etc.)
- Demonstrate understanding of troubleshooting skills
- Identify and apply general safety procedures
- Demonstrate familiarity with basic task management, prioritization, and planning



### **PC (Personal Computer) Hardware Knowledge**

- Identify various technologies (e.g., processors, memory, storage, interfaces, mobile devices, etc.)
- Demonstrate understanding of different printing technologies
- Exhibit knowledge of input devices (e.g., cameras, scanners, keyboards, and mice)
- Exhibit knowledge of output devices (e.g., LCD, printer, tablets, external storage, entertainment devices, etc.)
- Display knowledge of communication devices (e.g., modem, NIC, hub, switch, router, etc.)
- Differentiate between servers, workstations, and virtual clients

### *Specific Competencies and Skills continued:*

#### **PC (Personal Computer) Software Knowledge**

- Exhibit familiarity with operating systems
- Demonstrate familiarity with common software applications
- Exhibit knowledge of email software
- Demonstrate ability to install and maintain computer software
- Demonstrate proficiency with web browsing software (e.g., search engine items, HTML, Javascript, XML, plug-ins, etc.)
- Demonstrate familiarity with utility software (e.g., defrag, chkdsk, system restore, etc.)

#### **Networking and Data Communications**

- Recognize various network types and topologies
- Identify network protocols and LAN access methods
- Demonstrate familiarity with network services (e.g., VPN, video conferencing, file/printer sharing, DNS, DHCP, web services, etc.)
- Identify data communications media (e.g., wired, wireless, and satellite)
- Identify various Internet connectivity methods (e.g., cable modem, DSL, T1, dial-up, WiFi, etc.)

#### **Security**

- Exhibit working knowledge of information security, passwords, firewalls, and malicious software
- Exhibit knowledge of secure PKI, SSL, and Web communications
- Demonstrate understanding of security concepts

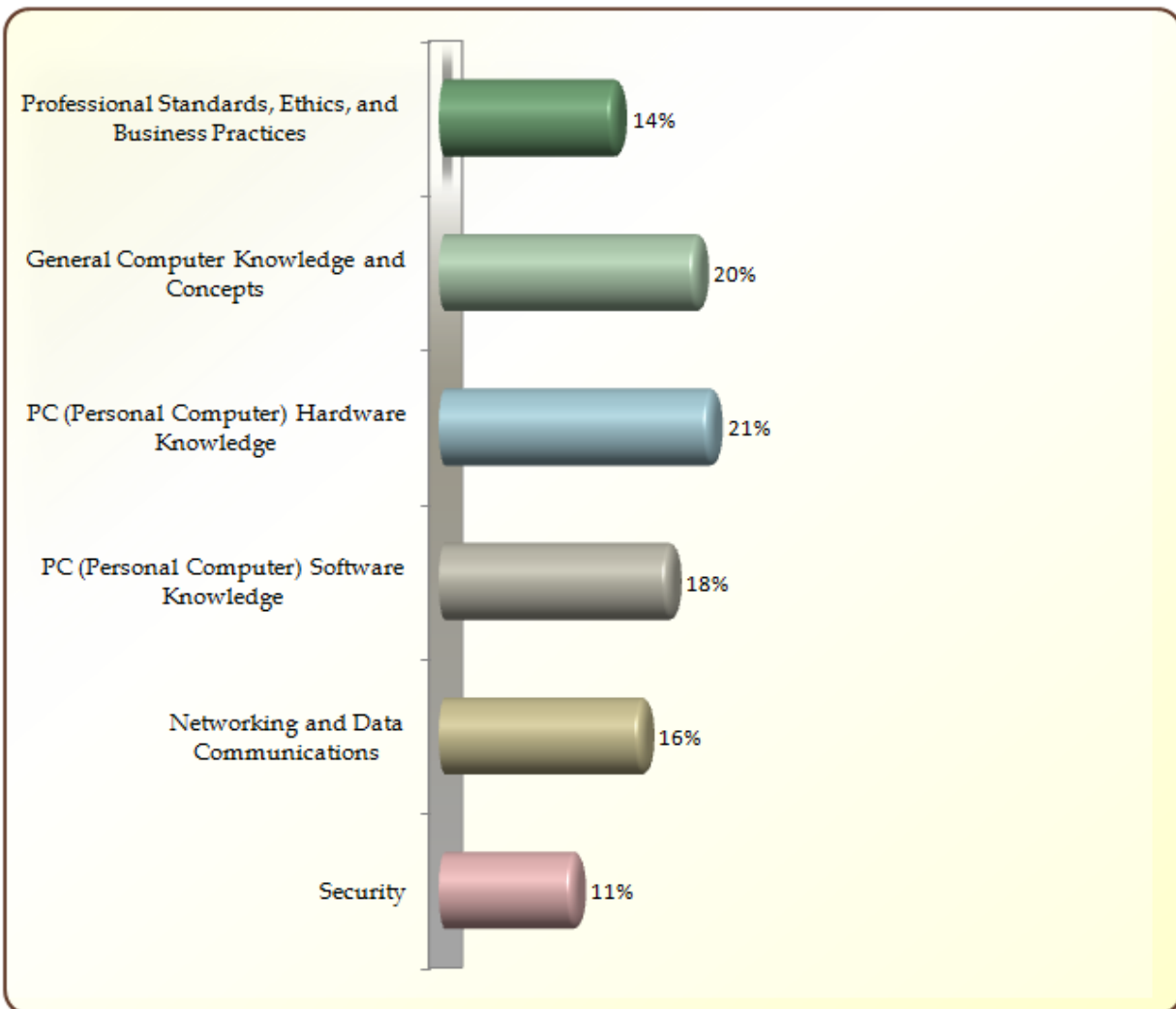


**Written Assessment:**

**Administration Time:** 3 hours

**Number of Questions:** 153

**Areas Covered:**



**Sample Questions:**

Once a user purchases software with a single-use license, the user may

- A. copy the software to another CD to be used as a back-up
- B. allow a coworker to copy the software onto another computer
- C. allow a family member to copy the software onto another computer
- D. copy the software to a network to be distributed

Organizing a solution that proceeds from the general to the specific is called

- A. the modular approach
- B. the end result of structured programming
- C. simple sequence logic
- D. top-down design

What software is required to access .pdf files?

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

Which of the following transmits data using light pulses?

- A. Ethernet cables
- B. satellite systems
- C. fiber optic cables
- D. coaxial cables

Select the most secure password from the list below.

- A. 078uhBU\*38
- B. PassWord
- C. qwerty1
- D. 93niGhkL

The term, computer ethics, refers to

- A. the physical protection of computer hardware and software
- B. the protection of data from accidental or malicious destruction
- C. a person's conduct and behavior as a computer user
- D. actions taken by management to prevent breaches in security

The binary number 110110101111 becomes \_\_\_\_\_ when converted to hexadecimal.

- A. DAF
- B. ADE
- C. DDD
- D. EAD

**Sample Questions (continued)**

A megabyte equals

- A. 1,024 bytes
- B. 1,004,096 bytes
- C. 1,024,000 bytes
- D. 1,048,576 bytes

The general way to transfer files over the Internet is to use

- A. SMTP
- B. FTP
- C. NNTP
- D. VOIP

A virus is a small piece of software that

- A. may enter computers through unpatched vulnerabilities
- B. is blocked as long as the virus detection program is running
- C. is always easy to remove
- D. rarely harms the computer

**Performance Assessment:****Administration Time:** 3 hours**Number of Jobs:** 4**Areas Covered:****31% File Management Using Windows GUI**

Participant will make folders on a flash drive; locate/copy and create/save specified files to SYSTEM folder; create/save specified files to the root of the SYSTEM folder and create a folder tree on SYSTEM; copy files into Test.txt, print Test.txt and write name on it, rename all “.txt” extensions to .doc extensions, save a copy of SYSTEM to the DATA1 and submit material to evaluator.

**15% Word Processing Applications**

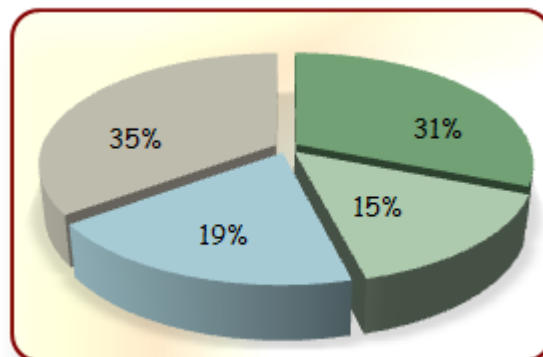
Participant will prepare, save and print, and edit a draft letter, then print, save, and submit the completed letter.

**19% Spreadsheet Applications**

Participant will set up a spreadsheet, with correct content, format the spreadsheet for printing, print showing formulas, print showing all values, and save and submit the completed spreadsheet.

**35% Network Connectivity**

Participant will set the proxy server for Internet access, identify and record the proxy server address and port, the computer name, computer workgroup or domain, IP address and subnet mask, the DNS server and suffix, DHCP server, MAC address; and connectivity to the server; trace a route to the server; submit the completed worksheet to the evaluator, and turn in flash drive.



**Sample Job:** Word Processing

**Maximum Time:** 45 minutes

**Participant Activity:** The participant will use a word processing application to type a business letter using the formatting directions provided. These directions include using various functions, such as the thesaurus and spell checker.

