NOCTI

Job Ready Credential Blueprint

Computer Technology

General Assessment Information

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Test Type: The Computer Technology industry-based credential is included in NOCTI's Job Ready assessment battery. Job Ready assessments measure technical skills at the occupational level and include items which gauge factual and theoretical knowledge. Job Ready assessments typically offer both a written and performance component and can be used at the secondary and post-secondary levels. Job Ready assessments can be delivered in an online or paper/pencil format.

Revision Team: The assessment content is based on input from secondary, post-secondary, and business/industry representatives from the states of California, Kentucky, Missouri, New Jersey, North Dakota, Oklahoma, Pennsylvania, and Virginia.

CIP Code	**CTE** Learning that works for America	**o·net** in·it
11.1006- Computer Support Specialist	Career Cluster 11- Information Technology	15-1151.00- Computer User Support Specialists

Association for Career and Technical Education
ACTE ®

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!

NATIONAL COLLEGE CREDIT RECOMMENDATION SERVICE
University of the State of New York - Regents Research Fund

In the lower division baccalaureate/associate degree category, 3 semester hours in Computing Processes, Operating Systems, or Networking and Data Communications
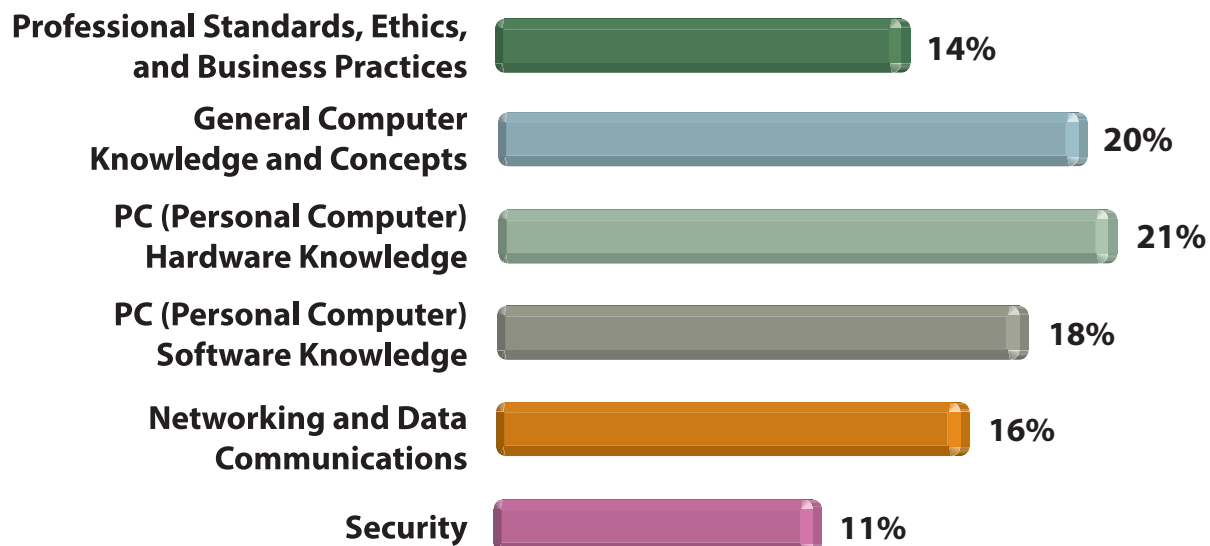
Written Assessment

NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

Administration Time: 3 hours
Number of Questions: 153
Number of Sessions: This assessment may be administered in one, two, or three sessions.

Areas Covered

Area	Percentage
Professional Standards, Ethics, and Business Practices	14%
General Computer Knowledge and Concepts	20%
PC (Personal Computer) Hardware Knowledge	21%
PC (Personal Computer) Software Knowledge	18%
Networking and Data Communications	16%
Security	11%

Specific Standards and Competencies Included 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)
- Demonstrate effective technical and professional communication skills

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

Specific Standards and Competencies (continued)

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

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)
- Demonstrate familiarity with utility software (e.g., defrag, chkdsk, system restore)

Specific Standards and Competencies (continued)

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)
- Identify data communications media (e.g., wired, wireless, and satellite)
- Identify various Internet connectivity methods (e.g., cable modem, DSL, T1, dial-up, WiFi)

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

Sample Questions

Once a user purchases software with a single-use license, the user may
      A.   copy the software to another DVD or thumb drive 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 for further distribution

Organizing a solution that proceeds from the general to the specific is called a/an
      A.   modular approach
      B.   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

Sample Questions (continued)

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

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

NOCTI performance assessments allow individuals to demonstrate their acquired skills by completing actual jobs using the tools, materials, machines, and equipment related to the technical area.

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 SYSTEM and create a folder tree on SYSTEM, copy files into Test.txt, Print Test.txt and write name on it, rename .txt extensions to .doc extensions, save a copy of SYSTEM to DATA1, and submit material to evaluator.

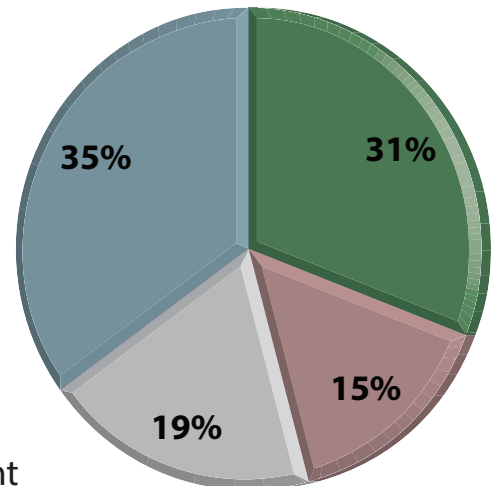**15% Word Processing Applications**
Participant will prepare, save and print, and edit a draft letter, then print, save and submit the completed letter.

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 Applications

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.