

1.1

Compare/contrast common OS's, functions & features

Mobile types:

Apple iOS

Android

Windows Phone

Blackberry

Workstation types:

Windows

Mac

Linux

Chrome OS

Open source vs commercial

Software compatibility for different OS types and versions

Awareness of hardware compatibility for OS support

32bit vs. 64bit operating systems

Basic functions of an operating system

Interface between user and machine

Coordination of hardware components

Provides environment for software to function

Monitors system health and functionality

1.1 (cont)

Displays structure / directories for data management

1.2

Identify common programs, applications and their purpose

Types: Productivity Software

- Word processing

- Spreadsheet software

- Email software

- Basic database software

- PDF viewers/creators

- Presentation software

- Desktop publishing software

- Personal Information Manager

- Remote desktop software

Collaboration Software

- Online workspace

- Document storage/sharing

- Screen sharing software

- Video conferencing software

- Instant messaging software

- Email software

Utility Software

- Utility Software

1.2 (cont)

- Software firewalls

- Diagnostic/maintenance software

- Compression software

Specialized Software

- CAD

- Graphic design

- Medical

- Scientific

- Financial

- Gaming

- Entertainment

Open source vs. commercial

Platforms Mobile

Desktop

Web-based

Common file-types Documents txt, rtf, doc/docx, xls/xlsx, ppt/pptx, pdf

Audio mp3, wav, flac, aac, m4a

Images jpg, gif, tiff, pag, bmp

Video mpg, mp4, flv, wmv, avi

Executables exe, msi, app, bat, scexe

Compression formats rar, tar, zip, dmg, iso, 7zip/7z, gzip/gz, jar



1.3

Given a scenario, use software management best practices

Install / uninstall OS features

Applications

Drivers

Patching / updates for OS, drivers, applications and security software

Scheduling

Frequency Automatic updates

Software version identification and compatibility

Licensing Products keys

Single/multi-license

1.4

Identify the following alternative technologies and their purpose

Virtualization Physical machine vs. virtual machine

Cloud Computing Streaming media(audio/video)

Web applications

VoIP

Telepresence

Gesture-based interaction Swiping

Pinch-to-zoom Kinetics

1.5

Explain the basic software features and functions of wireless devices

Unlocking/security

Bluetooth pairing Hands free Data transfer

1.5 (cont)

Wireless connection setup Verify wireless capabilities

Turn on WiFi

Locate SSID

Enter wireless password(if applicable)

Verify Internet connection

Email configuration POP3

IMAP

SMTP

Screen orientation

Synchronization configuration

Airplane mode

Stores for mobile applications

2.0

Identify basic wired and wireless peripherals and their purpose

Output devices Printer: - Laser

- Inkjet

- Thermal

Display devices: - Flatscreen

- CRT

- Projection

Speakers

Input devices Keyboard

Pointing devices Mouse

Touchpad

- Joystick

Stylus pen

Trackball

Scanner

Microphone

2.0 (cont)

Webcam

Input & Output devices Fax

External storage devices Flash drive

External hard drive

CD/DVD/Blu-Ray

Network Attached Storage

Memory card

Mobile media players

Smart phone

Touchscreen display

2.2

Compare and contrast common computer connector types

Video VGA, DVI, HDMI, Display port/Thunderbolt, USB, S-video, Component - RGB

FireWire

eSATA

Thunderbolt

USB

PS/2

Parallel

Serial

RJ-45

RJ-11

Audio

Power AC/DC



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2.3

Identify the purpose of internal computer components

CPU

Power Supply

RAM

Storage - Optical drive

- Hard drive

- Solid state drive

Expansion cards - Video card

- Audio card

- Network card

- Modem

Motherboard/mainboard

System cooling - Case fans

CPU fans

Liquid cooling

3.1 Security

Define basic security threats

Malware Virus

Trojan

Spyware

Ransomware

Phishing

Social engineering

Spam

Password cracking

Physical security - Hardware theft

- Software/license theft

- Shoulder surfing

- Dumpster diving

3.2

Given a scenario, use security best practices

Password management Password complexity

Change default passwords

Password confidentiality

Password expiration

Password reuse

Awareness of Single Sign On

Device hardening Disable unused features - Disable Bluetooth

- Disable NFC

Timeout/lock options

Enable security software/features - Software firewall

- Anti-malware

Encryption options

Open WiFi vs. secure WiFi

Multifactor authentication

Suspicious emails - Attachments

- Hyperlinks

Act on security software alerts

Admin vs. user vs. guest account

3.3

Given a scenario, use web-browsing best practices

Recognize... a secure connection/website https, lock symbol

... invalid certificate warnings

3.3 (cont)

...suspicious links

...suspicious banner ads

...adware symptoms - constant popups

- homepage redirection

- Search engine redirections

Limit the use of personal information (PII)

Update browsers and plugins - Avoid use of legacy browsers

Disable unneeded/suspicious browser plugins, toolbars and extensions

Disable autofill forms/passwords

Clear browser cache/history/cookies

Recognize untrusted source warnings

Risks of using public workstations

4.1

Given a scenario, set up and configure a basic SOHO router (wired / wireless)

- Verify wired connection, if applicable

Set WEP vs. WPA vs. WPA2

Change SSID from default

Apply a new wireless password

Change admin password for router

Connect to the new network

Verify internet connectivity

Update firmware if necessary

4.2

Compare and contrast cellular, wireless and wired data connections

High vs. low mobility

High vs. low availability

High vs. low throughput/bandwidth

High vs. low reliability

Connection delay

Number of concurrent connections

Levels of security

4.3

Compare and contrast different methods of sharing and storage

HTTP vs. - Browser-based file
HTTPS downloads

FTP vs. FTPS vs. SFTP (Secure File Transfer Protocol)

Local vs. Cloud-- - Cloud-based
hosted based collaborative
storage services applications

Cloud-based storage

File and Workgroup
print sharing

Homegroup

Network drives

Network attached storage

Direct attached storage

External hard drives

Peer-to- Local - Bluetooth
peer adhoc sharing
network

Direct link(PC-to-PC)

4.3 (cont)

Online peer-to-peer network

Network vs. local USB
printing

Wireless/wired network

5.1

Perform appropriate steps to set up a basic workstation

Plug in cables

Power on computer

Follow initial operating -Localization
system setup wizard settings

- Screen resolution

- Audio settings

Install security software

Configure peripherals (if applicable)

Uninstall unneeded software (if applicable)

Configure and verify internet connection

Install additional software (if applicable)

Run software and security updates

Other user accounts (if applicable)

Basic cable management

5.2

Explain the basic methods of navigating an operating system

Executing programs

Difference between shortcuts and files

Manipulating files Open

Edit

Save

Move

Copy

5.2 (cont)

Cut

Paste

Delete

Rename

Read-only vs. modifiable files

Navigate a file structure

Search, sort and display files

Create screen captures

Navigate with hot keys

Folder and file size

Accessibility options

Folder and file permissions

5.3

Given a scenario, implement basic support concepts

Check for external Loose cables /
issues connections

Power

Physical damage

Manufacturer documentation

Manufacturer websites

Technical community groups

Internet search engine

Contact technical support

5.4

Explain basic backup concepts

Importance of backups

Scheduling

Frequency

Storage - Locally attached
mediums storage

- Offsite/cloud-based

-Network attached storage

Backup verification and testing



5.5

Describe the importance and impact of various environmental and safety concepts

Proper disposal methods

CRT monitors

Scanners

Batteries

Ink/Toner

Hard drives

Power Energy efficient devices

Power profiles Power options

Sleep/-
Hibernation

UPS vs surge protector vs power strip Power limitations

International power differences

Device placement

Airflow

Humidity

Temperature

Dust accumulation

EMI

Electrostatic discharge concepts

Ergonomic concepts Proper keyboard and mouse placement

Sitting positions

Monitor level placement

Follow manufacturer safety guidelines



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