

# FBLA HS Introduction to Information Technology\*

## Computer Hardware (20 test items)

1. Describe different types of computers and their use cases (mainframe, personal, tablet, supercomputer, etc.)
2. Discuss common computer hardware components and their functions (e.g., CPU, RAM, hard drive)
3. Troubleshoot common computer hardware problems
4. Explain the purposes of expansion cards (e.g., graphics cards, sound cards, network adapters)
5. Evaluate decisions regarding the purchase and upgrade of computer hardware
6. Describe computer storage devices (e.g., SSD, HDD, external drives)
7. Explain the steps of basic hardware installation and configuration
8. Evaluate the performance of computer system components (CPU, GPU, etc.)
9. Discuss connectivity devices and peripherals (e.g., printers, scanners, USB devices, Bluetooth)
10. Interpret hardware requirements for running software

## Software Fundamentals (10 test items)

1. Distinguish between system, application, and specialized software
2. Explain the importance of software updates and patches
3. Explain the functions of various system utilities (e.g., antivirus, disk management, backup tools)
4. Describe appropriate use cases for specialized software applications
5. Identify the steps of the Software Development Life Cycle
6. Describe how software interacts with hardware to perform tasks

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\* Sources: These learning outcomes are based on content from the Information Technology Curricula 2017, CompTIA A+ Certification Exam Core 1 and 2 objectives, Intro to Information Technology, and Information Technology Content Standards 2018.

## Operating Systems (15 test items)

1. Explain the purpose and functions of operating systems
2. Discuss types of operating systems (e.g., mobile, desktop)
3. Troubleshoot common operating system issues (e.g., blue screen of death, crashing, boot issues)
4. Discuss the characteristics of different platform operating systems (e.g., Windows, macOS, Linux, Android, iOS)
5. Discuss basic operating system processes (e.g., booting and partitioning, caching, virtual memory, file systems)
6. Apply basic command-line utilities for Windows and Unix-like systems (e.g., file management, process monitoring, troubleshooting)
7. Describe steps for configuring an operating system (e.g., account setup and management, permissions, updates)

## Software Applications (10 test items)

1. Evaluate the most appropriate type of application for a business task (e.g., word processing, spreadsheet, email, presentation)
2. Discuss the uses of common workplace applications (e.g., word processing, spreadsheet, email, collaboration)
3. Describe email application features used in business and collaboration contexts
4. Explain the functions of team collaboration software (e.g., Microsoft Teams, Zoom)
5. Troubleshoot common email problems (e.g., spam, not receiving emails, fraud, phishing)

## Modern Technologies (10 test items)

1. Describe the function and applications of the cloud
2. Describe the purpose and applications of virtualization
3. Describe the Internet of Things (IoT)
4. Discuss use cases for artificial intelligence
5. Describe the nature of artificial intelligence

## Networking Concepts (20 test items)

1. Describe different types of networks (e.g., LAN, WAN)
2. Describe basic network security practices (e.g., encryption, VPN, packet sniffing, authentication)
3. Discuss common network security threats (e.g., viruses, phishing, backdoors)
4. Describe different connectivity technologies (e.g., Ethernet, Wi-Fi, Bluetooth)
5. Discuss the functions of common network devices (e.g., modems, routers, switches)
6. Discuss types of network environments (e.g., peer-to-peer, client-server, thin client)
7. Explain relationships between major network components (e.g., servers, clients, switches)
8. Describe each layer of the Open System Interconnection (OSI) model
9. Explain basic networking protocols (e.g., TCP/IP, UDP, DHCP, SMP)
10. Discuss the characteristics of network topologies (e.g., star, bus, ring)
11. Describe tools and procedures for troubleshooting networks (e.g., ping, tracert, checking cable connections)

## Information Management Concepts (15 test items)

1. Describe data storage methods (local, cloud, etc.)
2. Discuss basic database operations and use cases
3. Explain the importance of disaster recovery and list examples
4. Discuss physical and digital security practices to protect information
5. Describe ways in which personal data is collected, stored, stolen, and sold
6. Explain regulations pertaining to intellectual property, privacy, and licensing

## References

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