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About the Author

David L. Prowse is the author of more than a dozen computer training books and video products. He has worked in the computer field for 20 years and loves to share his experience through teaching and writing. He runs the website www.davidlprowse.com, where he gladly answers questions from readers and students.
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*Please note that we cannot help you with technical problems related to the topic of this book.*

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*Source: CompTIA 9th Annual Information Security Trends study: 500 U.S. IT and Business Executives Responsible for Security
**Source: CompTIA Employer Perceptions of IT Training and Certification
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Introduction

Welcome to *CompTIA A+ 220-901 and 220-902 Practice Questions Exam Cram*. The sole purpose of this book is to provide you with practice questions that are complete with answers and explanations to help you learn, drill, and review for the CompTIA A+ certification exams. The book offers over 600 questions that help you practice each exam domain and help you assess your knowledge before you take the real exams. The detailed answers to every question aid in reinforcing your knowledge about the concepts associated with the 900 series of the CompTIA A+ exams.

Who This Book Is For

The CompTIA A+ exams are designed for individuals with at least 12 months of hands-on experience in the lab or field. If you have that experience, then this book will be an excellent late-stage study tool. However, if you have not acquired that experience, I recommend that you register for a hands-on A+ course or, at the very least, purchase an authorized A+ study guide such as the *CompTIA A+ Exam Cram 220-901 & 220-902* textbook, or consider my A+ video courses. After you take the course and/or read the study guide, return to this book as your late-stage test preparation to be used just before taking the real exams.

What You Will Find in This Book

In every chapter devoted to practice exams, you will find the following three elements:

- **Practice Questions**: There are over 600 questions that help you learn, drill, and review for the exams. All of the questions in this section are multiple-choice.

- **Quick-Check Answer Key**: After you have finished answering the questions, you can quickly grade your exam from this section. Only correct answers are given in this section. No explanations are offered yet. Even if you have answered a question incorrectly, do not be discouraged. Keep in mind that this is not the real exam. You can always review the topic and revisit the questions again.
Answers and Explanations: This section provides you with correct answers as well as further explanations about the content posed in that question. Use this information to learn why an answer is correct and to reinforce the content in your mind for exam day.

The book also comes with a companion website. It contains a simulated testing environment where you can take all the exams on a computer in study mode or in full practice test mode. It also includes a “Real-World Scenarios” document and supporting performance-based exercises and videos.

Hints for Using This Book

Complete your exams on a separate piece of paper so that you can reuse the practice questions again if necessary. Also, plan to score 90 percent or higher on each exam before moving on to the next one. The higher you score on these practice questions, the better your chances for passing the real exams.

I am available for questions at my web site:

www.davidlprowse.com

I answer questions Monday through Friday, usually in the mornings.

Companion Website

Register this book to get access to the Pearson IT Certification test engine and other study materials plus additional bonus content. Check this site regularly for new and updated postings written by the author that provide further insight into the more troublesome topics on the exam. Be sure to check the box that you would like to hear from us to receive updates and exclusive discounts on future editions of this product or related products.

To access this companion website, follow these steps:

1. Go to www.pearsonITcertification.com/register and log in or create a new account.
2. Enter the ISBN: 9780789756305.
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Please note that many of our companion content files can be very large, especially image and video files.

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Pearson IT Certification Practice Test Engine and Questions

The companion website includes the Pearson IT Certification Practice Test engine—software that displays and grades a set of exam-realistic multiple-choice questions. Using the Pearson IT Certification Practice Test engine, you can either study by going through the questions in Study Mode or take a simulated exam that mimics real exam conditions. You can also serve up questions in a Flash Card mode, which will display just the question and no answers, challenging you to state the answer in your own words before checking the actual answers to verify your work.

The installation process requires two major steps: installing the software and then activating the exam. The website has a recent copy of the Pearson IT Certification Practice Test engine. The practice exam (the database of exam questions) is not on this site.

NOTE

The cardboard sleeve in the back of this book includes a piece of paper that lists the activation code for the practice exam associated with this book. Do not lose the activation code. On the opposite side of the paper from the activation code is a unique, one-time-use coupon code for the purchase of the Premium Edition eBook and Practice Test.

Install the Software

The Pearson IT Certification Practice Test is a Windows-only desktop application. You can run it on a Mac using a Windows virtual machine, but it was built specifically for the PC platform. The minimum system requirements are as follows:

- Windows 10, Windows 8.1, or Windows 7
- Microsoft .NET Framework 4.0 Client
- Pentium-class 1GHz processor (or equivalent)
The software installation process is routine compared with other software installation processes. If you have already installed the Pearson IT Certification Practice Test software from another Pearson product, there is no need for you to reinstall the software. Simply launch the software on your desktop and proceed to activate the practice exam from this book by using the activation code included in the access code card sleeve in the back of the book.

The following steps outline the installation process:

1. Download the exam practice test engine from the companion site.
2. Respond to windows prompts as with any typical software installation process.

The installation process will give you the option to activate your exam with the activation code supplied on the paper in the cardboard sleeve. This process requires you to establish a Pearson website login. You need this login to activate the exam, so please register when prompted. If you already have a Pearson website login, there is no need to register again. Just use your existing login.

Activate and Download the Practice Exam

After the exam engine is installed, you should activate the exam associated with this book (if you did not do so during the installation process) as follows:

1. Start the Pearson IT Certification Practice Test software from the Windows Start menu or from your desktop shortcut icon.
2. To activate and download the exam associated with this book, from the My Products or Tools tab, click the Activate Exam button.
3. At the next screen, enter the activation key from paper inside the cardboard sleeve in the back of the book. Once entered, click the Activate button.
4. The activation process will download the practice exam. Click Next, and then click Finish.

When the activation process completes, the My Products tab should list your new exam. If you do not see the exam, make sure that you have selected the
My Products tab on the menu. At this point, the software and practice exam are ready to use. Simply select the exam and click the **Open Exam** button.

To update a particular exam you have already activated and downloaded, display the Tools tab and click the **Update Products** button. Updating your exams will ensure that you have the latest changes and updates to the exam data.

If you want to check for updates to the Pearson Cert Practice Test exam engine software, display the Tools tab and click the **Update Application** button. You can then ensure that you are running the latest version of the software engine.

### Activating Other Exams

The exam software installation process and the registration process has to happen only once. Then, for each new exam, only a few steps are required. For example, if you buy another Pearson IT Certification Cert Guide, extract the activation code from the cardboard sleeve in the back of that book; you do not even need the exam engine at this point. From there, all you have to do is start the exam engine (if not still up and running) and perform Steps 2 through 4 from the previous list.

### Need Further Study?

Consider a hands-on A+ course, and be sure to see the following sister products to this book:


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Welcome to the first 220-901 practice exam. This is the easiest of the 220-901 exams. The subsequent exams will get more difficult and include more troubleshooting scenarios as you progress.

Take this first exam slowly. The goal is to make sure you understand all of the concepts before moving on to the next test.

Write down your answers and check them against the Quick-Check Answer Key that immediately follows the exam. After the answer key you will find the explanations for all of the answers. Good luck!
Practice Questions

1. Which of the following are components you might find inside a PC? (Select the three best answers.)
- A. CPU
- B. Motherboard
- C. Keyboard
- D. Printer
- E. RAM
- F. Cable modem

Quick Answer: 28
Detailed Answer: 29

2. Which device stores data over the long term?
- A. CPU
- B. RAM
- C. Hard drive
- D. Video card

Quick Answer: 28
Detailed Answer: 29

3. You would normally plug speakers into which type of port?
- A. FireWire
- B. DVI
- C. 1/8-inch TRS
- D. 1/4-inch TRS

Quick Answer: 28
Detailed Answer: 29

4. To which type of expansion slot would you install an x16 card?
- A. PCI
- B. PCIe
- C. USB
- D. PCI-X

Quick Answer: 28
Detailed Answer: 29

5. Which process of the computer checks all your components during boot?
- A. CMOS
- B. POST
- C. BIOS
- D. EEPROM

Quick Answer: 28
Detailed Answer: 29
6. Tim installs a new CPU in a computer. After a few hours, the processor starts to overheat. Which of the following might be the cause?
   - A. The CPU is not locked down.
   - B. The CPU is not properly seated.
   - C. Thermal compound was not applied.
   - D. The CPU is not compatible with the motherboard.

7. Which of the following could cause the POST to fail? (Select the two best answers.)
   - A. CPU
   - B. Power supply
   - C. Optical drive
   - D. Memory
   - E. Hard drive

8. Which expansion bus uses lanes to transfer data?
   - A. PCI
   - B. DMI
   - C. PCIe
   - D. SATA

9. Which of the following might you find as part of a tablet computer? (Select the two best answers.)
   - A. Flash memory
   - B. SATA hard drive
   - C. Multi-touch touchscreen
   - D. 24-inch display

10. Which kind of socket incorporates “lands” to ensure connectivity to a CPU?
    - A. PGA
    - B. Chipset
    - C. LGA
    - D. Copper
11. How should you hold RAM when installing it?
   - A. By the edges
   - B. By the front and back
   - C. With tweezers
   - D. With a punchdown tool

Quick Answer: 28
Detailed Answer: 30

12. Which device should you use to protect against power outages?
   - A. Multimeter
   - B. UPS
   - C. FedEx
   - D. Surge protector

Quick Answer: 28
Detailed Answer: 30

13. Which of the following uses a single 24-pin main motherboard power connector?
   - A. ATX
   - B. ATX 12V 1.3
   - C. ATX 12V 2.0
   - D. ATX 5V 2.0

Quick Answer: 28
Detailed Answer: 30

14. What is the maximum data transfer rate of SATA revision 3.0?
   - A. 1.5 Gb/s
   - B. 150 MB/s
   - C. 3.0 Gb/s
   - D. 6.0 Gb/s

Quick Answer: 28
Detailed Answer: 30

15. Which type of adapter card accepts broadcast programming?
   - A. FireWire card
   - B. Video capture card
   - C. Network interface card
   - D. TV tuner

Quick Answer: 28
Detailed Answer: 30

16. Which of the following types of custom PCs requires an HDMI output?
   - A. HTPC
   - B. Gaming PC
   - C. Virtualization workstation
   - D. CAD/CAM workstation

Quick Answer: 28
Detailed Answer: 30
17. How many pins are inside a SATA data connector?
   - A. 15
   - B. 7
   - C. 24
   - D. 127

18. What is the delay in the RAM’s response to a request from the memory controller called?
   - A. Latency
   - B. Standard deviation
   - C. Fetch interval
   - D. Lag

19. What is the minimum number of hard drives necessary to implement RAID 5?
   - A. Two
   - B. Five
   - C. Three
   - D. Four

20. A user’s time and date keeps resetting to January 1, 2000. Which of the following is the most likely cause?
   - A. The BIOS needs to be updated.
   - B. Windows needs to be updated.
   - C. The Windows Date and Time Properties window needs to be modified.
   - D. The lithium battery needs to be replaced.

21. Which type of adapter card is normally plugged into a PCIe x16 adapter card slot?
   - A. Modem
   - B. Video
   - C. NIC
   - D. Sound
22. To prevent damage to a computer, the computer should be connected to which of the following?
   - A. A power strip
   - B. A power inverter
   - C. An AC to DC converter
   - D. A UPS

23. Which of the following is a common type of CPU for a smartphone?
   - A. LGA 2011
   - B. SoC
   - C. Core i7
   - D. LPDDR

24. Which of the following components could cause the POST to beep several times and fail during boot?
   - A. Sound card
   - B. Power supply
   - C. Hard drive
   - D. RAM

25. Which of the following is the proper boot sequence of a PC?
   - A. CPU, POST, boot loader, operating system
   - B. Boot loader, operating system, CPU, RAM
   - C. POST, CPU, boot loader, operating system
   - D. CPU, RAM, boot loader, operating system

26. Which of the following are ports you might find on smartphones and tablets? (Select the two best answers.)
   - A. eSATA
   - B. Micro USB
   - C. Lightning
   - D. DVI

27. Which of the following has the fastest data throughput?
   - A. CD-ROM
   - B. Hard drive
   - C. RAM
   - D. USB
Quick Check

28. Which kind of form factor is commonly found in HTPCs?
   - A. ATX
   - B. Pico-ITX
   - C. MicroATX
   - D. Nano-ITX

Quick Answer: 28
Detailed Answer: 32

29. Which of the following CPU cooling methods is the most common?
   - A. Heat sink
   - B. Heat sink and fan
   - C. Liquid cooling
   - D. Liquid nitrogen

Quick Answer: 28
Detailed Answer: 32

30. Which of the following is not a video port?
   - A. DVI
   - B. HDMI
   - C. DisplayPort
   - D. S/PDIF

Quick Answer: 28
Detailed Answer: 32

31. Which of the following is necessary for a CAD/CAM workstation? (Select the two best answers.)
   - A. Powerful CPU
   - B. HDMI output
   - C. Surround sound
   - D. High-end video

Quick Answer: 28
Detailed Answer: 32

32. Which of the following technologies allows two mobile devices to transfer data simply by touching them together?
   - A. USB
   - B. NFC
   - C. Bluetooth
   - D. Wi-Fi

Quick Answer: 28
Detailed Answer: 32

33. What type of power connector is used for an x16 video card?
   - A. Molex 4-pin
   - B. SATA 15-pin
   - C. PCIe 6-pin
   - D. P1 24-pin

Quick Answer: 28
Detailed Answer: 32
Chapter 2

34. Which kind of current does a typical desktop PC draw from a wall outlet?
   ○ A. Direct current
   ○ B. Neutral current
   ○ C. Alternating current
   ○ D. Draw current

35. Which of the following are output devices? (Select the three best answers.)
   ○ A. Speakers
   ○ B. Keyboard
   ○ C. Mouse
   ○ D. Printer
   ○ E. Display
   ○ F. Touchpad

36. A customer complains that he gets a headache when he views his display for more than an hour. What should you do?
   ○ A. Raise the resolution to a higher setting.
   ○ B. Install an antiglare filter.
   ○ C. Dim the lights near the customer’s desk.
   ○ D. Upgrade the video connector from DVI to VGA.

37. What does the b in 1000 Mbps stand for?
   ○ A. Megabytes
   ○ B. Bits
   ○ C. Bytes
   ○ D. Bandwidth

38. When running cable through drop ceilings, which type of cable do you need?
   ○ A. PVC
   ○ B. Category 5
   ○ C. Strong cable
   ○ D. Plenum
39. Which of the following is the maximum data transfer rate for wireless protocol 802.11n?
   ○ A. 11 Mbps
   ○ B. 600 Mbps
   ○ C. 480 Mbps
   ○ D. 54 Mbps
   ○ E. 1.7 Gbps

40. Which device connects multiple computers together in a LAN?
   ○ A. Modem
   ○ B. Router
   ○ C. Switch
   ○ D. Firewall

Quick Answer: 28
Detailed Answer: 33