

# 25 PREPARATION TIPS TO HELP YOU PASS YOUR EXAM



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Although IT certification exam topics vary widely across a broad range of possibilities, there are certain tried-and-true exam preparation tips that apply to such exams on a universal basis. What I've tried to do in this collection of tips is to distill the knowledge and experience I've acquired in personally tackling over 50 certification exams, and in talking to and reading email from thousands of exam candidates over the past eight years. The details for each of these tips will vary, depending on which exam is your focus at any given moment. However, each tip is built around some essential

bit of information, best practice, organizational or confidence-building technique, or other element that has helped me and countless others add to the alphabet soup following our names.



For this collection of tips, I've divided them up into four categories which I introduce and explain here before digging into them in the order they're presented.

**EXAM RESEARCH:**

First and foremost, preparing for any certification means investigating what subject matter is covered and at what depth and level of detail so as to help candidates decide what they must study, what skills they must cultivate, what tasks they must practice, and so forth. Consider this the stage in which you learn the lay of the land, and decide which contours and features will involve the most time and effort to cover completely.

**EXAM PREPARATION:**

After you've mapped out the territory you need to cover in your studies, activities, and learning, it's time to dig in and start learning what you don't already know, or perhaps refresh what you learned long enough ago that the details are no longer crystal clear in your mind. This is where you march through the subject matter that's involved in getting ready for an exam, and devote yourself to becoming familiar enough with it to withstand the rigors of examination.

**READINESS ASSESSMENT:**

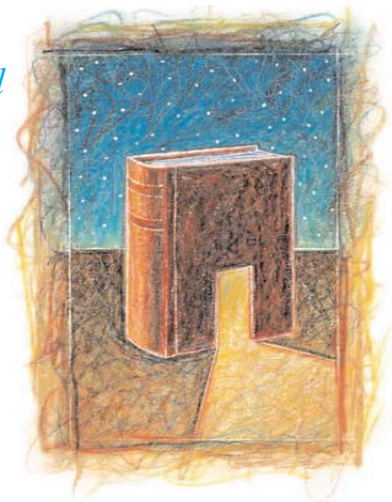
This is where you use practice exams to help identify what you know and what you don't, and then study what you don't know until you are comfortable with the material. Repeat this process as often as needed until you can pass practice exams with a comfortable scoring margin (i.e., aim to beat passing score or cut scores by 5%-10% to account for the impact of nerves and adrenaline when you go to a testing center to take "the real thing").

**PERSONAL PREPARATION:**

These activities will help you feel and perform at your best when you go to the testing center. In general, the goal of this document is to help you understand what you must do, and what you must learn, to prepare effectively to take a certification exam.

# First and foremost,

*preparing for any certification means investigating what subject matter is covered and at what depth and level of detail so as to help candidates decide what they must study, what skills they must cultivate, what tasks they must practice, and so forth. Consider this the stage in which you learn the lay of the land, and decide which contours and features will involve the most time and effort to cover completely.*



## 1. Obtain and use exam objectives.

Every exam sponsor offers some kind of information to describe what's covered on its exams. These descriptions are commonly called "exam objectives" but are sometimes called "exam topics," "topic maps," or even "common bodies of knowledge." Whatever such descriptions are called, you need to find them, explore them thoroughly, and use them to guide your exam research, preparation, and readiness assessment activities. In a very real way, everything you do in preparing for a certification exam comes back to the exam objectives. In fact, you should be able to decide whether or not a specific topic, tool, technology, activity, or skill is relevant to your efforts by deciding if it's sufficiently relevant to the exam objectives.

## 2. Investigate all relevant sponsor offerings.

Exam sponsors often offer an embarrassment of information riches when it comes to certification exams. Careful sleuthing of what's available may reveal course descriptions and outlines, recommended reading lists, online training offerings, and even sample test questions. (These items vary from exam to exam and program to program, so although you should look for such things, you shouldn't necessarily expect to find all of them. Consider yourself lucky if you do.)

The key here is to poke around the sponsor's Web pages, brochures, course catalogs, certification requirements documents, and anything else you can find that's related to the exam you're gearing up to tackle. As you look such things over, if they look useful or interesting, build yourself an annotat-

ed list of the URLs or references involved. Only those things you add to your list will stick with you for any length of time. (You can always prune stuff later.)

## 3. Find and use exam guidance.

From the exam sponsor and third parties such as CramSession.com, which cover certification exams with great interest and attention, you can learn a lot about what to expect. This includes things like the number and type of questions you're likely to encounter, the type of exam to expect, the total amount of time you'll be allowed to spend working on exam questions, and so forth. Balance what the sponsor tells you against what third parties tell you: nobody can or will tell you absolutely everything, but the more viewpoints and reports you can find and digest, the more comprehensive your understanding of the exam should be. This will help you decide how to prioritize your time and efforts when you take practice tests and ultimately, when you tackle the real thing.

## 4. Learn what you must know, and know what you must learn.

This is a pithy way of stating that you have to analyze the exam objectives and other information about the exam to get a sense of what's covered, and a sense about all the topics, tools, technologies, techniques, and practices likely to be involved. Next, you must take an inventory and decide which of those things you already know well enough, and which of those things you will have to study, practice, or learn more to understand well enough to get you through the exam. This is where you decide what it is you have to learn to raise your knowledge

enough to meet exam requirements.

## 5. Find and use good learning tools and technical resources.

Many exam sponsors offer huge libraries of information product documentation, white papers, how-to's, technical briefings, instructional videos, and more to interested members of the public or to qualified partners, resellers, or certified professionals. These can be invaluable to those who can obtain access to them. Likewise, most of the better known or more popular certifications develop significant aftermarket support, which means you can find study guides, books, practice tests, flash cards, online or classroom training, and many other tools to help you learn what you need to know to get ready to pass an exam. The important thing is to do your homework. Read exam or book reviews, digest and ponder mailing list or message board output, and in general find out as much as you can about "the good stuff" that's most likely to help you do well on an exam. After you've found best-of-breed items, create a budget and buy those things you can afford. At a minimum, I recommend a good study guide, a book, and one or more sets of practice exams to guide you through the necessary tasks and activities that you must master.

## 6. Be ready to learn by doing.

Not all learning requirements for some certifications may be met simply by reading, studying, or pencil and paper problem-solving. Some actually require real hands-on interaction and experience with specific systems, applications, tools, utilities, or consoles. As you research exam requirements, be sure to get a firm grip on the hands-on requirements involved. If necessary, you'll need to find a way to sit down in front of the right kinds of systems and learn as you complete tasks, troubleshoot problems, or perform specific tasks. This may mean setting up a small home computer lab, taking a course that includes lab access, finding a sufficiently realistic simulation to teach you what you must know, or finding a "virtual lab" online that can help you develop the skills and garner the experience you'll need.

## 7. Look for (or build) and use topic maps.

A topic map is basically a structured list or outline of all the subjects and topics likely to appear on an exam, plus any kinds of tasks or activities that candidates must know how to perform. Some exam sponsors provide such maps as part of their overall offerings; others present them inherently in their exam objectives documents. It might take a little work to organize exam requirements in this fashion, but it will give you the chance to use the results as a checklist to make sure you've covered all the ground during your preparation that's likely to be covered during the exam itself. It's also a good idea to try to relate the various practice exam questions you may encounter in your reading to specific exam objectives or to your topic map.

## 8. Check the college circuit.

Although it's not necessarily true for all certifications, many are the outright focus of college courses. Others are so strongly related in coverage and content that they might as well be. In either case, you'll find that most community colleges, undergraduate institutions, and many graduate schools, routinely post course outlines and syllabi or reading lists for all the courses they offer. Thus, if you can find a course that covers some or all of the topics on your exam's topic map, chances are good that the course's outline and reading list or

syllabus will also provide useful information (if only pointers to other good reading materials to help you learn what you need to know). Often, a half-hour spent surfing the Web looking at local community colleges or even Ivy-league schools can turn up lots of good, useful information.

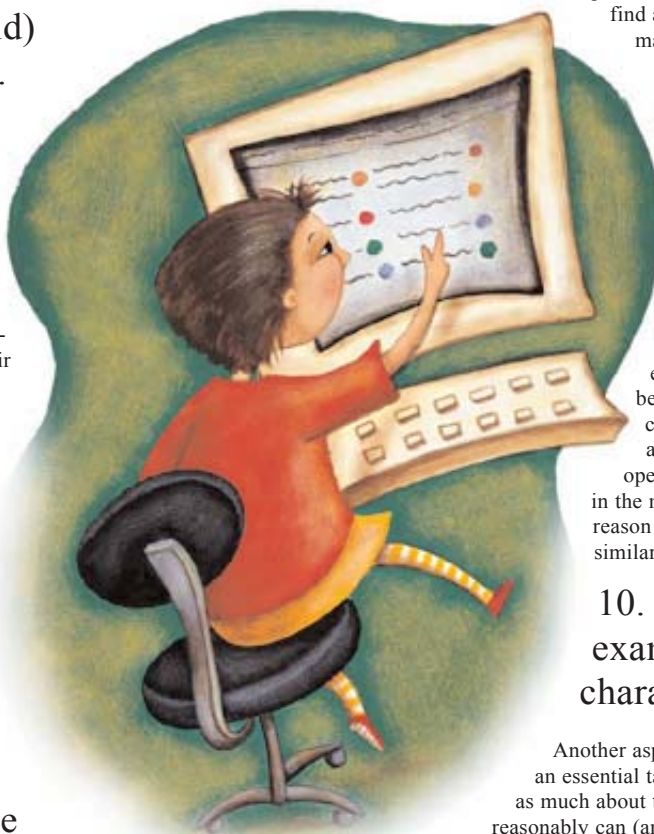
## 9. Check out other great information resources.

On many cert-focused Web sites and through local user groups you can often hook up with study groups that are actively collaborating to prepare for an exam that you're also interested in taking. Likewise, you'll sometimes find mailing lists or message boards tackling the same tasks virtually. You can also benefit by looking for lists of frequently asked questions (or FAQs) should you find any such groups who maintain them.

Peer groups can be a great source of information, moral support, and recommendations to help you find the best information and references. Be sure to look into such things whenever you're preparing for an exam. Some of my own best cert experiences have come from the learning and friendships I developed in MCSE study groups in the mid-1990s. There's no reason why you can't have a similar experience if you try.

## 10. Understand exam characteristics.

Another aspect of exam research is an essential task. It involves learning as much about the exam itself as you reasonably can (and let me go on record as being against brain dumping, or seeking to obtain verbatim text for exam questions as a "study aid"). What I mean is researching the types of certification questions a sponsor uses, such as multiple choice, scenario based, simulation based, and so forth, and the types of exams they present, such as straight line, short form, adaptive, laboratory, project work, and so forth. By knowing what to expect in terms of how an exam looks, feels, and behaves, you'll be more comfortable in the exam situation when you take the real thing. This is one of the important benefits of using practice exams to prepare.

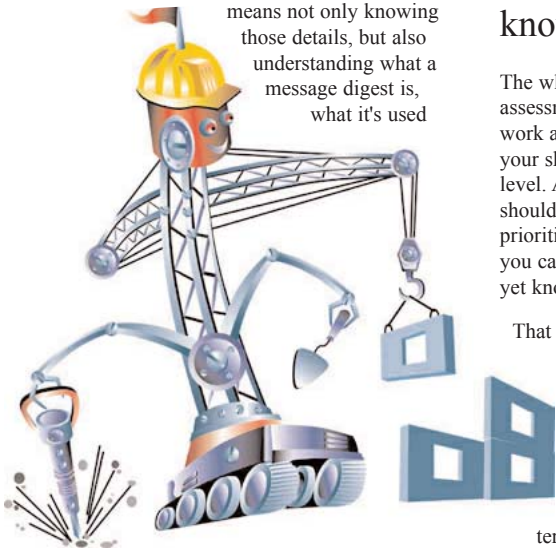


*After you've mapped out the territory you need to cover, it's time to dig in and start learning what you don't already know, or perhaps refresh what you learned a long time ago. This is where you march through the subject matter that's involved in getting ready for an exam, and devote yourself to becoming familiar enough with it to withstand the rigors of examination.*

## 11. Rate yourself on objectives, topics, and related subjects.

After you've researched exam objectives and built or found a topic map, you need to sit down and walk through your list and assess your knowledge and experience. At the same time, you should think about your general understanding of related subject matter. For example, if an exam calls for knowledge of the encoding characteristics of message digest algorithms, this

means not only knowing those details, but also understanding what a message digest is, what it's used



for, and why it's important in certain situations. Sometimes, to really get comfortable with certain subject specifics, you must first get familiar with the general background and context associated with that subject.

The reason you're going through this exercise is to determine those areas in which you're already up to speed and conversant with terms, tools, and techniques. The exercise can also help you identify those areas in which you've got some learning to do, perhaps even to come up to speed on related background or fundamentals before tackling detailed specifics.

If you don't feel comfortable that a self-assessment will pinpoint all your strengths and weaknesses, look for assessment tools from exam sponsors. Some do indeed offer skills and knowledge inventory tools that

can help you do the same thing, perhaps more objectively than a less formal self-assessment. If no actual assessment tools are available, take a practice exam early on and be ruthless in your evaluation of its results. This will nearly always help you identify those areas, tools, and topics on which you've got work to do before you can try again. More on this in the readiness assessment section later in this document!

## 12. Put your strongest effort where skills or knowledge are weakest.

The whole point of a self- or third-party assessment is to identify where the most work and effort will be needed to bring your skills and knowledge to the right level. After you figure that part out, it should be obvious that you need to prioritize and focus your studies so that you can learn those things that you don't yet know, or know only a little about.

That doesn't mean you don't need to spend any time reviewing other areas in which you may be more

comfortable with the subject matter, skills, or activities involved. It just means that you must expect to spend more time and expend more effort tackling those areas in which you've got the most work to do to meet requirements, as opposed to those areas where you can meet requirements with some quick, straightforward reading, review, or refresher exercises.

## 13. Perform regular assessments as you learn.

What works as you start the exam preparation process—assessing knowledge, skills and abilities also keeps working as you proceed through that process. I recommend that exam candidates reassess those things on a monthly basis as they grind through their prioritized topic lists and start making progress in learning, knowl-

edge, and understanding. Many people use practice tests to check their progress as they're studying. If your tools permit you to concentrate questioning on specific topics or subjects, as some do, you can assess your progress on a topic or objective basis before moving to other things. The key here is to keep at your studies and practice until you're able to answer most, if not all, related questions, and have acquired the necessary skills and abilities that may be involved.

## 14. Use questions and drills to guide further learning.

When you get a question wrong, or make some kind of mistake, it's tempting to try to memorize what's correct and move on to the next question or topic. However, the right thing to do is to try to identify where the mistakes or errors are coming from; incorrect understanding, lack of familiarity, insufficient practice, incorrect processes, and so forth – and then to learn more about the underlying subject matter so it will better inform you about the subject

*...dig in and start learning...*

overall. If you keep missing questions in a single topic area, maybe it's time to pull back and do some more background reading on that subject before trying again.

## 15. Go from questions to topics, and topics to questions.

This is a natural back-and-forth process that occurs during the study phase. As you tackle practice questions or drills, let those that puzzle or confuse you guide you to more reading, study, or practice. These feelings or results are telling you that you've got more work to do. Having done that work, return to other questions of the same kind to check if indeed you're not puzzled or confused any longer, or that you're getting those questions right. Repeat as needed.

*This is where you use practice exams to help identify what you know and what you don't, and then study what you don't know until you are comfortable with the material. Repeat this process as often as needed until you can pass practice exams with a comfortable scoring margin (i.e., aim to beat passing scores by 5%-10% to account for the impact of nerves and adrenaline when you go to a testing center to take "the real thing").*

## 16. Use assessment tools where available, practice exams where not.

As I already mentioned in item 11, some exam sponsors offer knowledge and skills assessments to help prospective exam candidates determine if they're ready for the exam, or if not, where they need to improve to get ready for the exam. Alas, only a minority of exam sponsors offer such tools, so it's probably not smart to expect them by default but rather resolve to be pleased if they're available to you at all. Even then, it's rare to find more than one or two assessments for any given exam, although the process I've outlined here can easily take two, three, or four to provide the right level of feedback and guidance during the preparation process.

## 17. Obtain and use practice exams.

How can you remedy the situation when you need an assessment, but don't have access to an outright assessment tool? It's easy: make sure you've got enough practice tests (three or four is the minimum number of complete question banks you'll need) to use for knowledge and skills assessment (which occurs while you're studying and learning new stuff) and some more for readiness assessment (which occurs when you think you've learned enough to pass the exam but want a sanity check before spending the sometimes substantial sums of money required to take such exams). It's almost always cheaper to buy another set of practice exams and study a bit longer than it is to take (and pay for) a real certification exam two or more times.

You might be thinking: "Practice exams cost \$60, \$70, \$100, or more per set! Why should I have to buy more than one set?" Well, maybe you will and maybe you

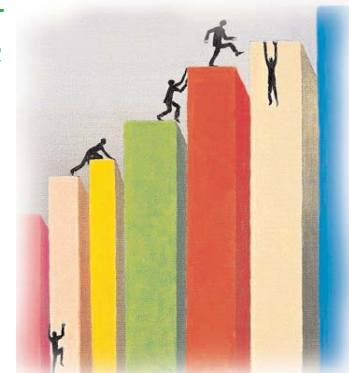
won't (see my last sentence in the preceding paragraph for a really good reason why this may be a worthwhile investment of your money despite the added cost). Often, you'll find lots of practice questions in the end-of-chapter materials in study guides and exam crams. These same books nearly always also include at least one complete printed practice exam; some even offer additional practice exams on a CD that comes with the book. You can also find sample questions and free practice tests for some certification exams online. The main value in buying more practice test question sets is that they might provide more realistic simulations of the real thing than those in the books; let your budget and your assessment results guide you in deciding what's right for you.

## 18. Early on, assessment guides learning, activity, and research.

As you start studying, assessments work best in helping you identify where you need to invest the most effort to learn background and fundamentals, as well as tackling specifics and details related to the exam itself. During this phase, it's seldom necessary to perform more than one assessment to decide where and how to focus your activities and efforts. What's really going on here is that you're establishing your basic knowledge and skills base in areas in which you've not been too active or involved before. This is where most of the broad learning and study involved in preparing for a certification exam will occur.

## 19. In the middle, assessment helps focus and strengthen skills and knowledge.

After you've learned the basics and mastered fundamental essential skills and abil-



ities, assessment starts to do more to help you get ready for an exam and less to teach you things you need to work on. This is where you start concentrating on the specifics that the exam writers think are important (expect some of this to make perfect sense, and some of it to seem totally arbitrary. That's just the nature of the testing process). Here, you'll focus on learning what sequence of steps are necessary to perform certain tasks (such as installing, formatting, and mounting a disk volume, for example) and what tools and consoles you must use to get the job done. At the same time, of course, you'll also be learning how to do something that the job/task skills analysts determined was necessary and test-worthy as they were designing the exam objectives and creating the question banks to cover those objectives. This middle phase can seem interminable, because you need to keep at it until you get comfortable with everything in the topic map as you prepare for the real thing.

## 20. When to stop practicing and do it for real.

Psychologists have observed that people feel less stress when practicing than when doing things for real. This applies to taking exams as much as to other things in life. Thus, when you determine that your average practice exam scores beat the minimum required passing score by 5%-10%, you can pat yourself on the back and schedule the actual cert exam. You need this extra cushion because most people's test scores drop by 5%-10% when they take an exam for real, because the stress involved has a slightly negative effect on test scores. In the final section of this document, I talk about other ways to help you lower your stress levels, or otherwise boost your exam performance on test day.

*These activities will help you feel and perform at your best when you go to the testing center. In general, the goal of this document is to help you understand what you must do, and what you must learn to prepare effectively to take a certification exam.*

## 21. Get a good night's sleep.

Although people are inclined to keep cramming for exams until the last possible minute, it actually makes a lot more sense to give yourself a break the night before. Go to bed early the night before your test date, and get plenty of rest before you take your exam. This may sound obvious, but it's more likely to help you do your best than more reading or studying until all hours, especially if your practice scores meet or exceed the passing score by the recommended margin.

## 22. Research test center location and double-check your appointment.

Most exam centers instruct you to show up 15 minutes prior to your start time to give you time to sign in (and also to protect people from the inevitable tendency to time their arrival for the exact start time). Look up the test center on the Web a few days ahead of time, and print a map if necessary. Make sure you understand local traffic patterns, particularly if your exam start time falls anywhere near normal rush hours. Make sure you know how to get there and leave 15 minutes earlier than you ordinarily would just to make sure delays won't keep you from making your appointment.

Two or three days before your scheduled exam slot, call the test center to make sure your registration is on record and that everything's OK there. I've had to reschedule exams twice in the past eight years because equipment problems prevented me from using my original time slot. It's a lot easier to figure this out over the phone than it is to take time off, drive to the test center, and be asked to reschedule in person!

## 23. Practice time management.

As you take practice exams, learn to watch the time and make sure you understand how much time you've got left as compared to the number of questions remaining. (This does not apply to adaptive exams, however.) If you get in the habit of making sure you understand how long it takes to complete an average question, and know how much time and questions you've got left, you'll know when you can



**For most cert exams, you're better off marking something on unread questions than leaving them blank. A blank response can never be correct, but a random response has at least some chance of being correct.**

take your time and when you must pick up the pace. For purely multiple-choice exams, this will also tell when it's time to quit reading and start picking answers at random.

When you get to the test center and take the actual exam, you can use the time management skills you've developed while practicing to manage your time more effectively while taking the real thing.

## 24. Don't start off on an empty stomach.

This advice may seem more appropriate for those off to work in the field than those heading to a test center. However, if your blood sugar gets low during an exam, your concentration and your test scores will drop. Make sure you've eaten a normal meal at a normal time before you arrive at the test center. At the least, have a snack such as an energy bar just before going into the test center.

## 25. Bring everything you need and nothing you don't.

Most test centers require test-takers to bring two forms of ID with them to sit for an exam. One photo ID (driver's license, passport, or other government ID) and one other ID (a credit card, library card, or membership card) with your signature will do the trick.

You can't take anything else into the exam room with you: no cell phones, music players, books, or other materials. If you bring any of this stuff with you, you'll have to leave it outside the room. If you do bring such stuff with you (and we recommend preparing a cram sheet of essential facts to review just before you walk in to take the exam, or take a short walk just before your exam starts and leave it in your car.

If you learn and do as much as you can to develop the right knowledge and skills, study hard, and practice positive personal preparation you can pass your exams.

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