

FUNDAMENTALS OF RADIOLOGY PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. The following are underlying motivations for all forms of law, except:**
 - A. Protecting people and property
 - B. Correcting injustices
 - C. Compensating for injury
 - D. Ensuring the permanence of the nation's ruler
- 2. Diseases of infectious origin whose incidence in humans has either increased within the past two decades or threatens to increase in the near future are called:**
 - A. Epidemics
 - B. Pandemics
 - C. Plagues
 - D. Emerging infectious diseases
- 3. A magnetic field and radio wave transmissions are used in which imaging modality?**
 - A. Digital radiography
 - B. Magnetic resonance imaging
 - C. Computed tomography
 - D. Nuclear medicine
- 4. Barium enemas are often supplemented with, or replaced by:**
 - A. Endoscopy and CT
 - B. MRI and sonography
 - C. Plain films and fluoroscopy
 - D. Digital fluoroscopy alone
- 5. "The thing speaks for itself" is the translation of the Latin phrase:**
 - A. Respondeat superior
 - B. Res tort assault
 - C. Res ipsa loquitur
 - D. None of the above

- 6. Which factor most improves visibility of detail on a radiograph?**
- A. Decreasing distance
 - B. Enlarging the field size
 - C. Using a radiographic grid
 - D. Reducing the mass
- 7. The two active components of an x-ray tube are:**
- A. A positive cathode and a negative anode
 - B. A negative cathode and a positive anode
 - C. The x-ray tube housing and the collimator
 - D. The spinning target and a vacuum
- 8. True or False: The patient having an image inadequate for interpretation is an example of a basis for a civil claim according to the material.**
- A. True
 - B. False
 - C. Cannot be determined
 - D. Not applicable
- 9. A breach of confidentiality occurs when the patient's medical condition:**
- A. Is discussed with the patient's spouse
 - B. Is written to a friend in another state
 - C. Is discussed in strict confidence with a friend
 - D. All of the above
- 10. How do students begin clinical education?**
- A. An adjunct radiography volunteer
 - B. A passive radiography participant
 - C. A part-time hospital employee
 - D. An adjunct radiography employee

Answers

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1. D
2. D
3. B
4. A
5. C
6. C
7. B
8. A
9. D
10. B

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Explanations

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1. The following are underlying motivations for all forms of law, except:

- A. Protecting people and property
- B. Correcting injustices
- C. Compensating for injury
- D. Ensuring the permanence of the nation's ruler**

The main idea is that law exists to protect people and their property, to correct injustices, and to provide remedies or compensation for harm. These are the everyday functions of a legal system: safeguarding life and belongings, ensuring fairness when wrongs occur, and making injured parties whole through compensation or redress. The notion of ensuring the permanence of the nation's ruler is not a general aim of law itself; it reflects political power and governance rather than the protective, corrective, and remedial purposes that underlie most legal rules. So, that option doesn't fit with the usual motivations of law, whereas protecting people and property, correcting injustices, and compensating for injury do.

2. Diseases of infectious origin whose incidence in humans has either increased within the past two decades or threatens to increase in the near future are called:

- A. Epidemics
- B. Pandemics
- C. Plagues
- D. Emerging infectious diseases**

Emerging infectious diseases are infections that have newly appeared in a population or are increasing in incidence or geographic range. The scenario describes diseases whose incidence in humans has risen during the past two decades or is likely to rise soon, which is exactly what defines emerging infectious diseases. They focus on changes in frequency or distribution over time, rather than just the current level of spread. This concept differs from epidemics, which are outbreaks with higher-than-expected cases within a specific community or region, and from pandemics, which are epidemics that have spread across multiple countries or continents. A plague is a historical term for a devastating outbreak and isn't a modern epidemiologic category. Factors driving emergence include globalization and travel, environmental changes, urbanization, and spillover from animal hosts, all of which help explain why certain infections appear or reappear with increasing frequency.

3. A magnetic field and radio wave transmissions are used in which imaging modality?

- A. Digital radiography
- B. Magnetic resonance imaging**
- C. Computed tomography
- D. Nuclear medicine

Magnetic resonance imaging relies on a strong static magnetic field to align hydrogen nuclei and radiofrequency pulses to disturb that alignment. The resulting signals from protons as they relax are detected and spatially encoded to create detailed images. This combination of magnetic field plus radiofrequency transmission is unique to MRI among common imaging modalities, whereas digital radiography and CT use X-rays, nuclear medicine uses radioactive tracers with gamma detection, and ultrasound uses sound waves.

4. Barium enemas are often supplemented with, or replaced by:

- A. Endoscopy and CT
- B. MRI and sonography
- C. Plain films and fluoroscopy
- D. Digital fluoroscopy alone

Barium enema exams are enhanced when paired with endoscopy and CT because they combine different types of information to give a complete view of the colon. Endoscopy allows direct visualization of the mucosal surface and the ability to obtain biopsies or remove polyps, giving tissue diagnosis and precise assessment of mucosal lesions. CT adds cross sectional imaging that shows the surrounding structures, helps stage disease, and detects extraluminal problems such as mass extent, lymph nodes, inflammation spreading outside the bowel, abscesses, or perforation. Together, these modalities provide both detailed mucosal information and a broader anatomical context, which is why they're often used to supplement or even replace a traditional contrast enema in many cases. MRI and ultrasound can be useful in specific scenarios, but they're not standard replacements for routine colon evaluation; plain radiographs or using fluoroscopy alone don't offer the same tissue detail or cross sectional context.

5. "The thing speaks for itself" is the translation of the Latin phrase:

- A. Respondeat superior
- B. Res tort assault
- C. Res ipsa loquitur
- D. None of the above

Res ipsa loquitur, which translates to "the thing speaks for itself," is a doctrine used when the occurrence itself provides strong evidence of negligence without needing direct proof of the specific act. For this to apply, the injury must be the kind that wouldn't normally occur without negligence, the instrumentality causing the harm must have been under the defendant's exclusive control, and the plaintiff must not have contributed to the accident. In a radiology context, it helps when equipment failure or mishandling by staff leads to injury in a way that strongly suggests negligence. The other options don't fit this translation: respondeat superior refers to employer liability for employees, not a self-evident negligent event; the term "res tort assault" isn't a recognized doctrine; and none of the above would be incorrect because the correct Latin phrase does exist.

6. Which factor most improves visibility of detail on a radiograph?

- A. Decreasing distance
- B. Enlarging the field size
- C. Using a radiographic grid
- D. Reducing the mass

Maximizing image contrast is the key to seeing fine detail on a radiograph. Scatter photons produced in the patient degrade contrast by adding a foggy layer that makes different structures harder to distinguish. A radiographic grid sits between the patient and the detector and absorbs much of this scattered radiation while allowing the primary beam to pass through. By reducing the scatter reaching the detector, the image becomes crisper and the differences in tissue attenuation stand out more clearly, so small details are more visible. Other options don't achieve that contrast improvement as reliably. Decreasing distance can affect sharpness and exposure but doesn't meaningfully reduce scatter fog. Enlarging the field size tends to increase scatter and reduce contrast, worsening detail visibility. Reducing mass changes the amount of tissue and attenuation but doesn't specifically enhance contrast in a consistent way.

7. The two active components of an x-ray tube are:

- A. A positive cathode and a negative anode
- B. A negative cathode and a positive anode**
- C. The x-ray tube housing and the collimator
- D. The spinning target and a vacuum

The fundamental setup of an x-ray tube hinges on emitting and collecting electrons to generate x-rays. The component that emits electrons is the cathode, which is negatively charged and heated so the tungsten filament releases electrons (thermionic emission). The component that accelerates and then converts those electrons into x-rays is the anode, which is positively charged and serves as the target where the electrons collide. When high voltage pulls the electrons from the cathode toward the anode, their impact on the tungsten target produces x-rays and much of the energy appears as heat that the anode must dissipate. Other parts like the tube housing and collimator shape and shield the beam and define exposure geometry, while the vacuum is essential to allow electrons to travel without air molecules interfering. But the two active, energy-converting components—the source of electrons and the recipient/convertor of those electrons—are the cathode and the anode, with the cathode negative and the anode positive.

8. True or False: The patient having an image inadequate for interpretation is an example of a basis for a civil claim according to the material.

- A. True**
- B. False
- C. Cannot be determined
- D. Not applicable

Adequate image quality is part of the standard of care in radiology; if a patient receives an image that is inadequate for interpretation, that shortfall can be considered a breach of duty by the imaging team. Such a breach can lead to missed or delayed diagnosis, additional testing, or treatment delays, all of which can cause harm and form the basis for a civil claim. Because the material recognizes that non-diagnostic imaging can support liability, this statement is true.

9. A breach of confidentiality occurs when the patient's medical condition:

- A. Is discussed with the patient's spouse
- B. Is written to a friend in another state
- C. Is discussed in strict confidence with a friend
- D. All of the above**

Confidentiality means patient information is kept private and only shared with people who are authorized to know it or who are directly involved in the patient's care, with the patient's consent when needed. Sharing a patient's medical condition with a spouse is not automatically allowed unless the patient has given explicit permission or there is a justified exception; otherwise it breaches confidentiality. Writing the patient's condition to a friend in another state is a disclosure to someone who is not involved in care and who has no authorization, which is also a breach. Even discussing the condition with a friend "in strict confidence" still counts as sharing with someone outside the authorized care circle, so it breaches confidentiality as well. Since any of these disclosures is inappropriate without proper authorization, all of these scenarios constitute breaches of confidentiality.

10. How do students begin clinical education?

- A. An adjunct radiography volunteer
- B. A passive radiography participant**
- C. A part-time hospital employee
- D. An adjunct radiography employee

The key idea is that students start clinical education by observing and learning in the real setting before taking on active radiography tasks. A passive radiography participant fits this phase, meaning the student is in the clinical environment to observe workflows, patient interaction, positioning basics, shielding, and safety, while gradually building competency under supervision. This observational role allows the student to assimilate how a radiography department operates without being responsible for performing exams or handling tasks that require independent professional status. The other options imply employment or active duties in the clinical setting, which isn't typical at the outset of clinical education. Being an adjunct radiography employee or a part-time hospital employee suggests paid staff responsibilities, and an adjunct radiography volunteer might not clearly describe the initial observational phase that starts a student's clinical learning.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://fundamentalsofradiology.examzify.com>

We wish you the very best on your exam journey. You've got this!

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