Introduction to Radiologic Technology Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Table of Contents

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

1. Sonography uses what type of waves?

A. Ionizing radiation

B. Visible light

C. Gamma rays

D. Non-ionizing, high frequency sound waves

2. In the context of stress management, what term best describes unexpected negative changes or events?

A. Stressor

B. Challenge

C. Hassles

D. Crisis

3. What are the two components of the x-ray tube?

A. Anode and Cathode

B. Cathode and Filament

C. Anode and Target

D. Filament and Target

4. What is the ARRT registry exam window after submission?

A. 120 calendar days

B. 60 calendar days

C. 180 calendar days

D. 90 calendar days

5. Which organization is associated with establishing the dose limits shown?

A. NCRP

B. NRCN

C. ICRP

D. WHO

6. Which term describes a pattern of response of a living organism to some form of injury?

A. Morbidity

B. Disease

C. Mortality

D. Epidemic

7. MRI is characterized by exposure to which of the following?

A. Ionizing radiation from X-rays

B. A magnetic field and radio wave transmission

C. Sound waves

D. Visible light exposure

8. Which of the following lists the three main concepts of radiation protection standards?

A. Time, Distance, Shielding

B. Time, Dose, Shielding

C. Time, Distance, Dose

D. Distance, Shielding, Dose

9. Which attribute involves looking at a situation from a variety of perspectives?

A. Seeks new solutions.

B. Willingness to examine beliefs and opinions against fears.

C. Look at a situation from a variety of perspectives.

D. Defines clearly a set of criteria for analyzing ideas.

10. Which term defines health as a state of complete physical, mental and social well-being?

A. Health

B. Disease

C. Morbidity

D. Mortality

Answers

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

Explanations

1. Sonography uses what type of waves?

A. Ionizing radiation

B. Visible light

C. Gamma rays

D. Non-ionizing, high frequency sound waves

Sonography uses non-ionizing, high-frequency sound waves. These are mechanical waves, not electromagnetic ones, so they do not have enough energy to ionize atoms, unlike ionizing radiation such as X-rays or gamma rays and unlike visible light. The transducer emits these ultrasound waves into the body and then receives the echoes that bounce back from tissues; the time it takes for echoes to return and their strength create the image. Higher frequencies provide better image detail but don't penetrate as deeply, while lower frequencies penetrate deeper with less detail, which is why different probes are chosen for different depths. The waves need a medium to travel through, which is why a coupling gel is used to improve transmission.

2. In the context of stress management, what term best describes unexpected negative changes or events?

A. Stressor

B. Challenge

C. Hassles

D. Crisis

The concept here is how stress is categorized in everyday life. Hassles are the everyday irritations and minor disruptions that catch you off guard and feel negative, yet they happen frequently. Because these small, unexpected events occur so often, their cumulative impact on stress levels and well-being can be substantial, making them a better fit for "unexpected negative changes or events" in everyday life than larger, rarer events. A stressor is a broad term for anything that triggers stress, a crisis implies a severe, urgent disruption, and a challenge is a demand framed as doable and often positive. So the term that best describes those unpredictable, negative day-to-day annoyances is hassles.

3. What are the two components of the x-ray tube?

A. Anode and Cathode

B. Cathode and Filament

C. Anode and Target

D. Filament and Target

The essential parts responsible for producing x-rays are the cathode and the anode. The cathode is a negatively charged assembly that includes a heated filament; when heated, the filament emits electrons through thermionic emission. The anode is a positively charged electrode that contains the target; under high voltage, the emitted electrons are accelerated toward this target and collide with it. The energy from these collisions is converted into x-ray photons (plus heat). The vacuum inside the tube and a focusing cup on the cathode help direct the electrons toward a small focal spot on the anode, making the x-ray beam efficient and controllable. So, x-rays are generated when electrons created at the cathode are directed to and interact with the anode's target. (Filament and target are parts of the cathode and anode respectively, but the two main components are cathode and anode.)

4. What is the ARRT registry exam window after submission?

A. 120 calendar days

B. 60 calendar days

C. 180 calendar days

D. 90 calendar days

The main idea here is that ARRT sets a 90-calendar-day window after you submit your registry exam registration. This means you have about three months to schedule and complete the exam. Keeping this window to 90 days provides a clear, finite period for taking the test and for processing results, helping avoid lingering eligibility. If you don't complete the exam within that span, the attempt typically expires and you'd need to start the process again. The other durations don't align with ARRT's standard policy, so 90 days is the correct window.

5. Which organization is associated with establishing the dose limits shown?

A. NCRP

B. NRCN

C. ICRP

D. WHO

Understanding who sets dose limits helps you see why that organization is the best choice. International guidance on safe radiation exposure comes from the ICRP, which publishes recommendations on how much radiation is permissible. In the United States, those recommendations are interpreted and published as specific dose limits by the NCRP. The NCRP translates the international guidance into practical limits used by professionals and regulators. The World Health Organization provides broad health guidance but does not establish numeric occupational dose limits, and the other option isn't a recognized body for setting these limits. So the organization associated with establishing the shown dose limits is the NCRP.

6. Which term describes a pattern of response of a living organism to some form of injury?

A. Morbidity

B. Disease

C. Mortality

D. Epidemic

Understanding how the body responds to injury is described by the term disease. A disease is an abnormal condition of the body or mind that disrupts normal function and presents with a pattern of signs and symptoms as the body responds to injury or illness. It encompasses the specific condition affecting an individual, whether from physical injury, infection, or other causes. Morbidity refers to how common a disease is within a population, not the individual pattern of response. Mortality is the rate of death. An epidemic describes a disease that spreads widely within a community. So disease is the term that best captures the body's characteristic response to injury at the individual level.

7. MRI is characterized by exposure to which of the following?

A. Ionizing radiation from X-rays

B. A magnetic field and radio wave transmission

C. Sound waves

D. Visible light exposure

MRI relies on a powerful static magnetic field to align hydrogen nuclei and radiofrequency pulses to disturb that alignment so the protons emit signals as they relax. The image is built from those signals, with additional gradient fields helping to locate where they come from. This energy interaction is non-ionizing, meaning MRI does not use ionizing radiation like X-rays. It also does not image with sound waves or visible light. So the defining exposure of MRI is a magnetic field combined with radio wave transmission.

8. Which of the following lists the three main concepts of radiation protection standards?

A. Time, Distance, Shielding

B. Time, Dose, Shielding

C. Time, Distance, Dose

D. Distance, Shielding, Dose

The basic way to keep radiation exposure low is to apply three protective tactics: time, distance, and shielding. Reducing the time you are exposed lowers dose because the amount of exposure accumulates with how long the beam is on. Increasing distance from the source has a powerful effect due to the inverse square relationship—doubling the distance decreases exposure to about one-quarter. Shielding uses barriers made of materials like lead or concrete to attenuate the beam; the appropriate thickness and material reduce the dose reaching you or nearby patients. Dose is the quantity we measure after exposure, not a protective action, so it's not listed as one of the protective strategies. In practice, these three work together to meet safety standards: minimize exposure time, maximize distance when feasible, and use proper shielding and barriers. This is why the correct trio is Time, Distance, Shielding.

9. Which attribute involves looking at a situation from a variety of perspectives?

A. Seeks new solutions.

B. Willingness to examine beliefs and opinions against fears.

C. Look at a situation from a variety of perspectives.

D. Defines clearly a set of criteria for analyzing ideas.

Perspective-taking is the ability to view a situation from multiple viewpoints. It helps you see how different people might interpret the same facts, reveal hidden assumptions, and reduce personal bias. By explicitly looking at a situation from a variety of perspectives, you gain a more nuanced understanding and can weigh trade-offs more effectively. The option that states looking at a situation from a variety of perspectives directly describes this skill, making it the best choice. Other choices point to seeking new solutions, examining beliefs against fears, or defining evaluation criteria—useful in their own right, but they don't capture the act of adopting multiple viewpoints.

10. Which term defines health as a state of complete physical, mental and social well-being?

A. Health

B. Disease

C. Morbidity

D. Mortality

Health captures the idea of a person's overall condition, encompassing physical, mental, and social well-being, not just the absence of illness. This broad, positive definition comes from the understanding that well-being involves more than just not being sick, and it includes how people feel, think, and interact with others. That's why this term is the best fit for the statement. Disease refers to a specific illness or abnormal condition of the body or mind, not the overall state of well-being. Morbidity describes the presence or rate of illness in a population, not an individual's state of health. Mortality means death or the death rate, which is unrelated to defining health itself.

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://introtoradtech.examzify.com

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