

ARDMS (American Registry for Diagnostic Medical Sonography) Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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

- 1. What is the name of the frequency used in tissue harmonics that is responsible for image production?**
 - A. Overall gain**
 - B. Fundamental frequency**
 - C. Harmonic frequency**
 - D. Spatial compounding**
- 2. What is the recommended patient preparation for an abdominal ultrasound?**
 - A. Drinking plenty of water before the exam**
 - B. Fasting for 6-8 hours prior to the exam**
 - C. Taking a laxative the night before**
 - D. Arriving with a full bladder**
- 3. What is a key role of a sonographer?**
 - A. To prescribe medications for patients**
 - B. To perform ultrasound examinations and provide images to physicians**
 - C. To interpret medical diagnoses independently**
 - D. To manage the medical office finances**
- 4. In obstetric imaging, how is "viability" commonly assessed?**
 - A. By measuring the size of the fetus**
 - B. By detecting the fetal heartbeat**
 - C. By evaluating the amniotic fluid level**
 - D. By assessing maternal blood pressure**
- 5. Which type of artifact appears echogenic and stems from gas bubbles as they vibrate due to the interaction with the ultrasound beam?**
 - A. Edge shadow**
 - B. Crosstalk**
 - C. Slice thickness**
 - D. Ring-down artifact**

- 6. How can the color fill of a blood vessel be improved during an exam?**
- A. Change the steering of the color box.**
 - B. Increase the output power.**
 - C. Decrease the color gain.**
 - D. Change the window so the vessel is shallower.**
- 7. For reflection to take place, which situation must exist?**
- A. There must be little difference of the impedances at soft-tissue boundaries.**
 - B. Normal incidence and identical impedances must be present.**
 - C. Oblique incidence must occur.**
 - D. The border of two different tissues must have different impedances.**
- 8. Which method is commonly used to monitor fetal heart activity?**
- A. CT scan**
 - B. Ultrasound**
 - C. X-ray**
 - D. MRI**
- 9. While assuming continuous wave (cw) ultrasound, what is the duty factor (DF)?**
- A. 0.2%**
 - B. 1%**
 - C. 0%**
 - D. 100%**
- 10. If the frequency is doubled, what effect will this have on the wavelength?**
- A. It will remain the same.**
 - B. It doubles.**
 - C. It increases by a factor of 1.54.**
 - D. It is halved.**

Answers

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

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Explanations

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1. What is the name of the frequency used in tissue harmonics that is responsible for image production?

- A. Overall gain**
- B. Fundamental frequency**
- C. Harmonic frequency**
- D. Spatial compounding**

The frequency used in tissue harmonics that is responsible for image production is known as the fundamental frequency. This is because tissue harmonics creates a second harmonic signal by using sound waves at twice the frequency of the original signal, which results in a clearer and more precise image. Options A, C, and D are incorrect because they do not accurately describe the frequency used in tissue harmonics. Overall gain refers to the amplification of the signal, harmonic frequency refers to a multiple of the original frequency, and spatial compounding is a technique used to combine multiple images for a better final image.

2. What is the recommended patient preparation for an abdominal ultrasound?

- A. Drinking plenty of water before the exam**
- B. Fasting for 6-8 hours prior to the exam**
- C. Taking a laxative the night before**
- D. Arriving with a full bladder**

Fasting for 6-8 hours prior to an abdominal ultrasound is the recommended preparation because it significantly improves the quality of the images obtained during the examination. When the patient fasts, the stomach and intestines are less likely to contain food or gas, which can obscure visualization of important abdominal structures such as the liver, gallbladder, pancreas, and kidneys. A clearer view is essential for obtaining accurate measurements and detecting any abnormalities. This fasting period ensures that the sonographer can assess the organs effectively, leading to better diagnostic outcomes. Other methods of preparation, while important for specific types of examinations, do not provide the same level of benefit in terms of image clarity for a standard abdominal ultrasound.

3. What is a key role of a sonographer?

- A. To prescribe medications for patients
- B. To perform ultrasound examinations and provide images to physicians**
- C. To interpret medical diagnoses independently
- D. To manage the medical office finances

A key role of a sonographer is to perform ultrasound examinations and provide images to physicians. This involves using specialized ultrasound equipment to create images of structures within the body, such as organs, tissues, and blood vessels. The sonographer must be skilled in operating the ultrasound machine, understanding the anatomy being evaluated, and capturing images that are diagnostic-quality. These images are then used by physicians to aid in diagnosing and managing various medical conditions. This role is critical in the healthcare spectrum as it directly facilitates patient care by supplying essential diagnostic information. Sonographers collaborate with physicians but do not make independent medical decisions or prescribe medications, which fall outside their scope of practice. Additionally, interpreting medical diagnoses is a responsibility that lies with physicians, not sonographers, who focus primarily on imaging. Managing office finances is also unrelated to the clinical tasks that sonographers perform. Thus, the provision of ultrasound images to assist physicians is foundational to the sonographer's role in patient diagnostics.

4. In obstetric imaging, how is "viability" commonly assessed?

- A. By measuring the size of the fetus
- B. By detecting the fetal heartbeat**
- C. By evaluating the amniotic fluid level
- D. By assessing maternal blood pressure

In obstetric imaging, assessing "viability" primarily involves detecting the fetal heartbeat. The presence of a heartbeat is a critical indicator that the fetus is alive and developing normally. It signals that the cardiovascular system is functioning, which is essential for proper growth and development. Other methods, such as measuring the size of the fetus or evaluating amniotic fluid levels, can provide useful information about the pregnancy's progress and health. However, these methods do not directly confirm the presence of life. For instance, a fetus may be measured and found to be within the expected size range, but without a heartbeat, viability cannot be confirmed. Maternal blood pressure, while important for maternal and fetal health, does not directly correlate with the viability of the fetus. Thus, detecting the fetal heartbeat serves as a reliable and definitive way to assess the viability of a pregnancy, providing clear evidence that the fetus is alive.

5. Which type of artifact appears echogenic and stems from gas bubbles as they vibrate due to the interaction with the ultrasound beam?

- A. Edge shadow**
- B. Crosstalk**
- C. Slice thickness**

D. Ring-down artifact

The type of artifact described in the question, which appears echogenic and is caused by gas bubbles vibrating in response to the ultrasound beam, is known as a "ring-down artifact." This artifact occurs when gas bubbles within a structure, such as the gastrointestinal tract or within a cyst, vibrate and produce a distinct echogenic pattern on the ultrasound image. The other options can be explained as follows: - Edge shadow artifact occurs when there is shadowing or darkening behind a sharply demarcated object. - Crosstalk is an artifact that occurs when there is interference or bleed-through from one ultrasound plane to the next. - Slice thickness artifact is caused by inadequate orientation of the ultrasound beam, leading to poor resolution and an artificial appearance of structures.

6. How can the color fill of a blood vessel be improved during an exam?

- A. Change the steering of the color box.**
- B. Increase the output power.**
- C. Decrease the color gain.**
- D. Change the window so the vessel is shallower.**

To improve the color fill of a blood vessel during an exam, changing the steering of the color box is the correct option. By adjusting the steering of the color box, the ultrasound beam can be directed more accurately towards the blood vessel, enhancing the color fill and providing a clearer image of the blood flow. The other options are not directly related to improving the color fill of a blood vessel during an exam: - Increasing the output power can lead to tissue damage and is not recommended. - Decreasing the color gain may result in a weaker signal and poorer image quality. - Changing the window so the vessel is shallower does not directly address improving the color fill but rather the depth of the vessel being imaged.

7. For reflection to take place, which situation must exist?
- A. There must be little difference of the impedances at soft-tissue boundaries.
 - B. Normal incidence and identical impedances must be present.
 - C. Oblique incidence must occur.
 - D. The border of two different tissues must have different impedances.**

For reflection to occur in ultrasound imaging, the key factor is the presence of a significant difference in acoustic impedances at the interface between two tissues. This difference leads to a portion of the ultrasound beam being reflected back towards the transducer, which helps in producing the images we see during an ultrasound examination. Therefore, the correct answer is D because the difference in impedances at the boundary of two tissues is essential for reflection to occur. Options A, B, and C are not correct because they do not accurately describe the necessary conditions for reflection in ultrasound imaging.

8. Which method is commonly used to monitor fetal heart activity?
- A. CT scan
 - B. Ultrasound**
 - C. X-ray
 - D. MRI

Monitoring fetal heart activity is primarily accomplished through the use of ultrasound. This imaging technique utilizes sound waves to create a visual representation of the fetus and allows for real-time monitoring of the heart rate. Ultrasound is non-invasive, safe for both the mother and the fetus, and provides detailed information about the fetus's development and well-being. Options such as CT scans and X-rays involve exposure to ionizing radiation, which poses risks during pregnancy and is typically avoided for fetal monitoring. MRI, while it is a useful imaging tool, is less commonly used for routine monitoring of fetal heart activity due to its higher costs, longer duration, and the need for specialized equipment and settings. Thus, ultrasound remains the most practical and effective method for assessing fetal heart activity.

9. While assuming continuous wave (cw) ultrasound, what is the duty factor (DF)?
- A. 0.2%
 - B. 1%
 - C. 0%
 - D. 100%**

In continuous wave (CW) ultrasound, the duty factor (DF) refers to the ratio of time the ultrasound is actually on (transmitting) compared to the total time. In the case of continuous wave ultrasound, the ultrasound is transmitting 100% of the time, meaning the duty factor is 100%. This continuous transmission allows for the detection of high-velocity blood flow, as opposed to pulsed wave ultrasound where transmission is interrupted to allow for reception of echoes. Therefore, option D (100%) is the correct answer.

10. If the frequency is doubled, what effect will this have on the wavelength?

- A. It will remain the same.**
- B. It doubles.**
- C. It increases by a factor of 1.54.**
- D. It is halved.**

When the frequency of a wave is doubled, according to the wave equation (speed = frequency x wavelength), the speed of the wave remains constant. Since the speed of the wave remains the same and the frequency has doubled, the only way for the equation to stay balanced is for the wavelength to be halved. Therefore, when the frequency is doubled, the wavelength is halved. This relationship between frequency and wavelength is essential in understanding how different properties of waves interact with each other.

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://ardms.examzify.com>

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