DANB Radiology Practice Exam (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

Sample study guide. For the full version with hundreds of questions, visit: https://danbradiology.examzify.com

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

SAMPLE

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.

SAMPLE

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!

SAMPLE

Questions

SAMPLE

1. Which of the following cells is the most sensitive to radiation?

A. Red blood cells

B. White blood cells

C. Muscle cells

D. Nerve cells

2. What is the total filtration required for x-ray machines that operate above 70 KVP?

A. 1.5 mm

B. 2.0 mm

C. 2.5 mm

D. 3.0 mm

3. What is the primary function of the fixer in the radiography process?

A. To develop the image

B. To enhance sharpness

C. To remove unexposed silver halide crystals

D. To improve image contrast

4. What is the proper patient positioning for bitewing radiographs?

A. Mid-sagittal plane perpendicular to the floor

B. ALA-tragus line parallel to the floor

C. Occlusal plane perpendicular to the floor

D. Frankfort plane parallel to the floor

5. Which device can be used to minimize radiation exposure during X-ray procedures?

A. Lead gloves

B. Thyroid collar

C. Rectangular collimation

D. Lead apron

SAMPLE

6. Which anatomical structure can be seen in the mandibular central region?

A. Mental foramen

B. Genial tubercles

C. Tori

D. Mandibular canal

7. Which of the following is a common source of background radiation?

A. Radiation from X-ray machines

B. Medical diagnostic imaging

C. Cosmic radiation

D. Radiation from cell phones

8. Which film size is typically used for bitewing radiographs on adult patients?

A. Size 1

B. Size 2

C. Size 3

D. Size 4

9. What is the purpose of the embossed dot on a radiograph?

A. To enhance the quality of the image

B. To distinguish between the patient's right and left side

C. To indicate exposure time

D. To provide a reference for oral landmarks

10. With which type of film are intensifying screens typically used?

A. Intraoral film

B. Extraoral film

C. Digital film

D. Screen film

SAMPLE

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. Which of the following cells is the most sensitive to radiation?

A. Red blood cells

B. White blood cells

C. Muscle cells

D. Nerve cells

White blood cells are particularly sensitive to radiation due to their role in the immune system and their relatively high turnover rate compared to other cell types. These cells are part of the body's defense mechanism and are constantly regenerating, making them more susceptible to damage from ionizing radiation. When radiation exposure occurs, it can lead to disruptions in cell division and function, especially in rapidly dividing cells, which includes many types of white blood cells. This susceptibility is due in part to their role in producing antibodies and responding to infections, which requires them to be in a state of constant readiness and replication. In contrast, red blood cells, while also affected by radiation, have a longer lifespan and are not as rapidly turned over as white blood cells. Muscle cells and nerve cells have slower rates of division and regeneration, making them less sensitive to the immediate effects of radiation compared to the active and rapidly dividing white blood cells. Thus, white blood cells emerge as the most radiation-sensitive cells in the body.

2. What is the total filtration required for x-ray machines that operate above 70 KVP?

A. 1.5 mm

B. 2.0 mm

C. 2.5 mm

D. 3.0 mm

The total filtration required for x-ray machines that operate above 70 kVp is 2.5 mm of aluminum. This level of filtration is necessary to ensure that the x-ray beam is adequately filtered to reduce patient exposure to unnecessary radiation. Higher kVp settings penetrate tissues more effectively, but they also produce higher-energy x-rays that can result in increased scattering and potential exposure. The purpose of filtration is to remove low-energy x-rays that do not contribute to image quality but can increase the dose of radiation to the patient. By specifying a minimum of 2.5 mm of aluminum as the standard filtration for machines operating above 70 kVp, regulatory bodies aim to optimize patient safety while still delivering the diagnostic capabilities needed for effective imaging. This standard helps ensure that the resulting x-ray beam is both effective for imaging and safe for patients, reducing the risk of radiation-related hazards.

SAMPLE

3. What is the primary function of the fixer in the radiography process?

A. To develop the image

B. To enhance sharpness

C. To remove unexposed silver halide crystals

D. To improve image contrast

In the radiography process, the primary function of the fixer is to remove unexposed silver halide crystals from the film. After the film has been exposed to radiation and developed, it contains both developed silver (which forms the image) and unexposed silver halide crystals. The fixer, which is a chemical solution, works to dissolve these unexposed crystals, preventing them from continuing to react to light and ensuring that the image remains stable and does not change when it is exposed to light during handling or viewing. This process is crucial because it ensures that the final radiographic image is clear and permanent. If the unexposed crystals are not removed, they could darken over time or cause fogging on the film, which would ultimately compromise image quality. Therefore, the role of the fixer is essential in achieving a high-quality radiographic image.

4. What is the proper patient positioning for bitewing radiographs?

A. Mid-sagittal plane perpendicular to the floor

B. ALA-tragus line parallel to the floor

C. Occlusal plane perpendicular to the floor

D. Frankfort plane parallel to the floor

The proper patient positioning for bitewing radiographs involves aligning the ALA-tragus line parallel to the floor. This positioning is crucial because it helps to ensure that the radiographic image captures the appropriate areas of the posterior teeth, which are typically the primary focus of bitewing films. The ALA-tragus line is an anatomical reference line drawn from the ala (wing) of the nostril to the tragus of the ear, and when this line is parallel to the floor, it facilitates optimal vertical angulation of the X-ray beam. By positioning the patient in this way, the chances of getting a clear and diagnostic image are increased, as it minimizes the distortion and superimposition of anatomical structures that may occur with incorrect alignment. This positioning technique is designed to ensure that both the maxillary and mandibular teeth are adequately represented in the bitewing view, particularly the interproximal areas, which are critical for detecting caries and assessing periodontal health.

SAMPLE

5. Which device can be used to minimize radiation exposure during X-ray procedures?

A. Lead gloves

B. Thyroid collar

C. Rectangular collimation

D. Lead apron

Rectangular collimation is a technique used in radiology to reduce the amount of radiation exposure to patients during X-ray procedures. It works by restricting the size and shape of the X-ray beam so that it closely conforms to the area of interest being imaged. By limiting the beam, rectangular collimation minimizes the exposure of surrounding tissues to radiation, thereby enhancing patient safety. This device effectively reduces scatter radiation, which can contribute to increased dose without providing any diagnostic benefit. When the X-ray beam is collimated appropriately, it helps ensure that only the necessary areas are exposed to radiation, ultimately leading to a more focused image with a reduced dose for the patient. In contrast, while lead gloves, thyroid collars, and lead aprons are important protective devices that help shield specific areas of a patient's body or the radiographer from unnecessary radiation exposure, they do not directly influence the amount of radiation produced during the X-ray procedure itself. Thus, while these other options aid in overall radiation safety, rectangular collimation specifically addresses the reduction of radiation exposure at the source level during X-ray imaging.

6. Which anatomical structure can be seen in the mandibular central region?

A. Mental foramen

B. Genial tubercles

C. Tori

D. Mandibular canal

The genial tubercles are small bony prominences found on the lingual aspect of the mandible, specifically in the midline and just above the mandibular central incisors. They serve as attachment points for the genioglossus and geniohyoid muscles. Being situated in the mandibular central region, the genial tubercles are relevant in various dental procedures and examinations, as they provide crucial landmarks for practitioners. Understanding the position of the genial tubercles is essential for procedures involving the anterior mandible, such as extractions or implant placements, as well as for interpreting radiographs accurately. This prominence contrasts with other structures that may be present in the mandibular area but are not specifically located in the central mandibular region.

SAMPLE

7. Which of the following is a common source of background radiation?

A. Radiation from X-ray machines

B. Medical diagnostic imaging

C. Cosmic radiation

D. Radiation from cell phones

Cosmic radiation is indeed a common source of background radiation. It originates from outer space and continuously bombards the Earth's atmosphere. This type of radiation is a natural and unavoidable part of our environment, contributing to the overall background radiation levels that everyone is exposed to on a daily basis. In contrast, radiation from X-ray machines and medical diagnostic imaging are forms of artificial radiation that are typically encountered during specific medical procedures rather than as constant background exposure. Additionally, radiation from cell phones is minimal compared to cosmic radiation, as the non-ionizing radiation emitted from cell phones is much weaker and does not contribute significantly to background radiation levels. Therefore, cosmic radiation is recognized as the most relevant source of background radiation among the options presented.

8. Which film size is typically used for bitewing radiographs on adult patients?

A. Size 1

B. Size 2

C. Size 3

D. Size 4

Bitewing radiographs are specifically designed to capture the crowns of the maxillary and mandibular teeth in one image, allowing for an effective assessment of interproximal caries and the health of the supporting bone. For adult patients, size 2 film is the standard choice because it provides sufficient coverage to include the needed areas while also fitting comfortably in the mouth. Size 2 film balances capturing the right amount of detail with the practical considerations of size and patient comfort. It allows for an optimal view of both the upper and lower teeth in the bitewing position, making it the most commonly used size in clinical practice for adults. Other sizes, such as size 1, which is smaller and typically used in children, or size 3 and size 4, which are larger and not commonly used for bitewing imaging, do not serve the same purpose effectively in adults.

SAMPLE

9. What is the purpose of the embossed dot on a radiograph?

A. To enhance the quality of the image

B. To distinguish between the patient's right and left side

C. To indicate exposure time

D. To provide a reference for oral landmarks

The embossed dot on a radiograph serves as an important marker to help distinguish between the patient's right and left sides. This feature is particularly useful in dental radiography where the orientation of images is critical for accurate diagnosis and treatment. When viewing a radiograph, dental professionals can easily identify which side of the patient's mouth is being represented, aiding in proper interpretation. This distinction is vital because misidentifying the sides could lead to inappropriate conclusions about a patient's dental health or unnecessary treatments on the wrong side. The embossed dot typically appears on the film's outer edge, and it indicates which side of the film was facing the x-ray source. This ensures clarity in communication and record-keeping, enhancing the overall efficacy of patient care in a dental setting.

10. With which type of film are intensifying screens typically used?

A. Intraoral film

B. Extraoral film

C. Digital film

D. Screen film

Intensifying screens are specifically designed to enhance the image quality produced by screen film during the radiographic process. These screens emit fluorescence when exposed to X-rays, amplifying the radiation effect on the film and allowing for a lower radiation dose to be used while still achieving a diagnostic image. Screen films require this combination with intensifying screens, as they are not as sensitive to X-ray exposure without them. In extraoral imaging, such as panoramic or cephalometric radiography, the use of screen film along with intensifying screens is common practice. This pairing helps to create high-quality images while minimizing patient exposure to radiation. Intraoral films are typically designed to be used without intensifying screens, as they are inherently more sensitive to direct X-ray exposure. Digital film relies on electronic sensors rather than film and screens for image capture, and thus does not apply to this context. Therefore, the association between extraoral film and intensifying screens is what makes this the appropriate choice.

SAMPLE

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://danbradiology.examzify.com

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

SAMPLE