

# FDI Diagnostic Imaging Exam 1 Practice Exam (Sample)

Study Guide



**Everything you need from our exam experts!**

**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

<b>Copyright</b> .....	<b>1</b>
<b>Table of Contents</b> .....	<b>2</b>
<b>Introduction</b> .....	<b>3</b>
<b>How to Use This Guide</b> .....	<b>4</b>
<b>Questions</b> .....	<b>5</b>
<b>Answers</b> .....	<b>8</b>
<b>Explanations</b> .....	<b>10</b>
<b>Next Steps</b> .....	<b>16</b>

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.

# 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

SAMPLE

- 1. What radiographic sign is commonly associated with internal root resorption?**
  - A. Irregular root outline**
  - B. Symmetrical enlargement of the pulp chamber with a radiolucent defect within the root canal**
  - C. Widened periodontal ligament space only**
  - D. Lateral bone loss near apex**
  
- 2. Which attribute primarily determines edge definition and overall sharpness in a radiographic image?**
  - A. Brightness**
  - B. Density**
  - C. Sharpness**
  - D. Contrast**
  
- 3. The \_\_\_\_\_ of the anatomic structure and the \_\_\_\_\_ of their recorded structural lines (sharpness) determine the overall quality of the radiographic image**
  - A. Visibility, accuracy**
  - B. Brightness, sharpness**
  - C. Clarity, precision**
  - D. Contrast, resolution**
  
- 4. What is the recommended practice when imaging a patient with a known metal restoration to reduce streaks?**
  - A. Use a large focal spot and maximize exposure to reduce streaks**
  - B. Use a small focal spot, adjust exposure, and consider alternate views or CBCT if artifacts obscure critical anatomy**
  - C. Skip imaging and rely on clinical examination**
  - D. Ferromagnetic shielding around the restoration**
  
- 5. In the described radiographic image, what does the left marker indicate about patient positioning?**
  - A. The left shoulder was closest to the bucky/film.**
  - B. The left shoulder was furthest away from the bucky/film.**
  - C. The marker is not used on lateral views.**
  - D. The patient's pain is on their left side.**

- 6. Which statement about STIR sequences is correct?**
- A. STIR sequences visualize calcifications**
  - B. STIR is a water-sensitive MRI sequence that visualizes edema**
  - C. STIR measures atomic density**
  - D. STIR sequences are used in CT**
- 7. The visible difference between adjacent radiographic densities defines**
- A. Detail**
  - B. Density**
  - C. Resolution**
  - D. Contrast**
- 8. In radiographic evaluation, the CEJ is primarily used as a reference point for measuring what?**
- A. Vertical bone height**
  - B. Pulp vitality**
  - C. Sinus floor position**
  - D. Horizontal bone loss**
- 9. Which imaging modality provides 3D localization and reduces distortion in jaw imaging?**
- A. CBCT provides 3D localization and reduces distortion**
  - B. Panoramic radiography provides 3D localization**
  - C. MRI provides 3D localization**
  - D. 2D intraoral radiographs provide 3D localization**
- 10. In endodontic retreatment planning, CBCT can reveal beyond periapical radiographs?**
- A. Pulp vitality**
  - B. Presence of missed anatomy and residual obturation material**
  - C. Tooth color**
  - D. Caries extent**

## Answers

SAMPLE

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

SAMPLE

## **Explanations**

SAMPLE

**1. What radiographic sign is commonly associated with internal root resorption?**

**A. Irregular root outline**

**B. Symmetrical enlargement of the pulp chamber with a radiolucent defect within the root canal**

**C. Widened periodontal ligament space only**

**D. Lateral bone loss near apex**

Internal root resorption shows up as a symmetrical enlargement of the pulp space with a radiolucent defect that is centered within the root canal. This resorption occurs from inside the canal outward, so the canal walls appear widened while the external root outline remains relatively intact in the early stages. This contrasts with external resorption, which produces irregularities on the outer surface of the root. A widened periodontal ligament space or lateral bone loss near the apex are not specific signs of internal resorption and point to other issues. So the radiographic hallmark is symmetry: enlargement of the pulp space with a radiolucent area inside the canal.

**2. Which attribute primarily determines edge definition and overall sharpness in a radiographic image?**

**A. Brightness**

**B. Density**

**C. Sharpness**

**D. Contrast**

Edge definition and overall sharpness come from spatial resolution—the system's ability to render fine details and distinct boundaries. This attribute determines how clearly borders between adjacent structures are seen, so it directly controls how sharp the image appears. It is affected by geometric factors such as the focal spot size (a smaller spot reduces blur at edges), the source-to-image distance (longer distance decreases magnification blur), and the object-to-image distance (smaller distance reduces blur from magnification). Motion also degrades sharpness by smearing edges. In contrast, brightness, density, and contrast influence how dark or light the image and the differences between tones appear, but they do not primarily govern edge clarity.

3. The \_\_\_\_\_ of the anatomic structure and the \_\_\_\_\_ of their recorded structural lines (sharpness) determine the overall quality of the radiographic image

- A. Visibility, accuracy
- B. Brightness, sharpness
- C. Clarity, precision
- D. Contrast, resolution

The main idea is that image quality depends on how visible the anatomy is and how accurately its edges are depicted on the radiograph. If the anatomy isn't clearly visible, you can't interpret it, no matter how sharp the lines are. And if the recorded lines don't accurately reflect the true edges of the structures, fine details are misrepresented, reducing diagnostic usefulness. So the statement that fits best is that the visibility of the anatomic structure and the accuracy of their recorded structural lines (sharpness) determine the overall radiographic image quality. Context: tools like exposure and contrast affect visibility, while factors such as focal spot size, motion, and geometry affect edge fidelity, shaping how sharp those lines appear.

4. What is the recommended practice when imaging a patient with a known metal restoration to reduce streaks?

- A. Use a large focal spot and maximize exposure to reduce streaks
- B. Use a small focal spot, adjust exposure, and consider alternate views or CBCT if artifacts obscure critical anatomy
- C. Skip imaging and rely on clinical examination
- D. Ferromagnetic shielding around the restoration

Metal restorations create streaks because high-contrast interfaces interact with the X-ray beam, causing beam hardening and scatter. The best way to mitigate this is to optimize technique and views. Use a small focal spot to improve sharpness near the restoration, and adjust exposure to lessen artifact visibility—often by increasing the beam energy (higher kVp) and balancing mA so the image remains adequately exposed. If the artifacts still obscure critical anatomy, obtain alternate views or use CBCT to evaluate the area from different angles or with artifact-reduction capabilities. This approach avoids worsening blur with a large focal spot, doesn't rely on skipping imaging, and doesn't involve shielding, which aren't effective for reducing these artifacts.

5. In the described radiographic image, what does the left marker indicate about patient positioning?

- A. The left shoulder was closest to the bucky/film.**
- B. The left shoulder was furthest away from the bucky/film.
- C. The marker is not used on lateral views.
- D. The patient's pain is on their left side.

Markers on radiographs indicate which side of the patient is being shown and how the patient is positioned. On a lateral view, the side marker reveals which side is closest to the image receptor (bucky/film). A left-side marker means the left side of the patient is nearest the detector, so the left shoulder is the one closest to the film. This orientation helps ensure correct left-right labeling and accurate interpretation of the anatomy. It's about positioning, not about pain or any other clinical detail.

6. Which statement about STIR sequences is correct?

- A. STIR sequences visualize calcifications
- B. STIR is a water-sensitive MRI sequence that visualizes edema**
- C. STIR measures atomic density
- D. STIR sequences are used in CT

STIR is an MRI technique that uses an inversion pulse to cancel fat signal, making water-containing tissues stand out. By suppressing fat, edema—which has increased free water—appears bright on these images, so STIR is especially good at visualizing edema and related pathology. Calcifications are better seen on CT and MRI doesn't measure atomic density directly; calcifications often appear as signal voids rather than as an edema-like bright signal. STIR is an MRI sequence, not something used in CT.

7. The visible difference between adjacent radiographic densities defines

- A. Detail
- B. Density
- C. Resolution
- D. Contrast**

Contrast is the concept being tested here. It refers to the visible difference in radiographic densities between neighboring structures on the image, which is what allows you to distinguish borders and identify tissues. Density is about the overall darkness of the image, not the difference between adjacent areas. Resolution concerns the ability to separate small, closely spaced details, i.e., spatial clarity. Detail (or sharpness) describes how well edges and fine structures are defined. So the visible difference between adjacent densities defines contrast.

**8. In radiographic evaluation, the CEJ is primarily used as a reference point for measuring what?**

- A. Vertical bone height**
- B. Pulp vitality**
- C. Sinus floor position**
- D. Horizontal bone loss**

The CEJ provides a stable landmark on a tooth that lets you quantify how much bone support remains by measuring the distance from the CEJ to the alveolar bone crest on radiographs. When the bone crest recedes evenly around the tooth, you're looking at horizontal bone loss, which is why the CEJ is used as the reference point for evaluating this pattern. Pulp vitality and sinus floor position aren't assessed with this radiographic reference, so those options don't fit.

**9. Which imaging modality provides 3D localization and reduces distortion in jaw imaging?**

- A. CBCT provides 3D localization and reduces distortion**
- B. Panoramic radiography provides 3D localization**
- C. MRI provides 3D localization**
- D. 2D intraoral radiographs provide 3D localization**

Cone-beam CT provides true three-dimensional localization of jaw structures while minimizing geometric distortion. It captures a volumetric dataset around the area of interest with isotropic voxels, so measurements are accurate in all directions and you can view anatomy in multiple planes. This 3D capability lets you pinpoint the exact position of roots, canals, lesions, or implants relative to surrounding structures. In contrast, panoramic radiography is 2D, producing overlapping anatomy and magnification that prevent true depth localization. MRI can create 3D data, but it's not routinely used for bone imaging in dentistry due to limited cortical bone detail, longer scan times, and practicality, making it less suitable for jaw localization. Two-dimensional intraoral radiographs offer only flat views with distortion and no depth information. Therefore, cone-beam CT is the modality that provides accurate 3D localization with reduced distortion for jaw imaging.

**10. In endodontic retreatment planning, CBCT can reveal beyond periapical radiographs?**

**A. Pulp vitality**

**B. Presence of missed anatomy and residual obturation material**

**C. Tooth color**

**D. Caries extent**

In retreatment planning, the strength of CBCT is its ability to show the tooth in three dimensions, revealing details that a standard 2D periapical radiograph can miss. This is crucial for identifying areas that still harbor bacteria or were not adequately cleaned in the initial treatment. The best choice highlights two key findables: missed anatomy and residual obturation material. Missed anatomy refers to additional canals, fins, isthmuses, or unusual canal configurations that may not be visible on 2D images but can be detected on CBCT, guiding more complete retreatment. The presence of residual obturation material tells you where previous fillings remain and where retreatment efforts should focus to remove the old filling and properly disinfect and re-obturate the canal system. Pulp vitality, tooth color, and caries extent are not the primary new information CBCT provides in this context. Pulp vitality is assessed clinically, not by imaging. Tooth color is observed clinically for esthetic reasons. Caries detection is more effectively and safely done with conventional radiographs and clinical examination, whereas CBCT exposes greater radiation and is not routinely used for caries assessment.

## 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](mailto:hello@examzify.com).**

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

**<https://fdi1.examzify.com>**

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

SAMPLE