

# CALIFORNIA FLUOROSCOPY STATE BOARD PRACTICE EXAM (SAMPLE)

## STUDY GUIDE



*Prepare with structure. Pass with confidence*



**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

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

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 is the effect of using lower kilovoltage peak (kVp) on scatter radiation production?**
  - A. It increases scatter radiation
  - B. It decreases scatter radiation
  - C. It has no effect on scatter radiation
  - D. It doubles the amount of scatter radiation
- 2. To create an appearance of motion without flicker, how often must a television frame be completed?**
  - A. 1/30 sec
  - B. 1/10 sec
  - C. 1/60 sec
  - D. 1/5 sec
- 3. When operating in magnification mode, what happens to the field of view of an image intensifier?**
  - A. The field of view is increased
  - B. The field of view is decreased
  - C. The electron beam is expanded
  - D. The voltage on the accelerating anode is increased
- 4. Fluoroscopic operator exposure to scattered radiation is directly proportional to which factor?**
  - A. X-ray beam quality
  - B. X-ray beam energy
  - C. Image brightness
  - D. Patient exposure
- 5. Which of the following components supply electrical power to the x-ray tube?**
  - A. x-ray transformer
  - B. x-ray generator
  - C. kVp meter
  - D. mA meter

- 6. What term describes coordinating x-ray production to avoid exposure while advancing cine film?**
- A. Framing sequence
  - B. Framing frequency
  - C. Synchronization
  - D. Interlacing
- 7. The rendered pixel size will have a direct effect on what when viewing the virtual image on a LCD monitor?**
- A. Image brightness
  - B. Image size
  - C. Image contrast
  - D. Image resolution
- 8. What term describes the brightness gain achieved by the efficiency of an output phosphor to convert electrons to light photons?**
- A. flux gain
  - B. conversion efficiency gain
  - C. minification gain
  - D. total brightness gain
- 9. What is the most frequently witnessed phenomenon in growing tissue exposed to radiation?**
- A. Formation of giant cells or other abnormal mitosis
  - B. Chromosomal breaks
  - C. Cessation of cell division
  - D. Clumping of chromatin
- 10. A digital camera uses a specific device to capture light from the output phosphor on an image intensifier. What is this device?**
- A. Closed circuit digital
  - B. Contrast control device
  - C. Charge coupled device
  - D. Cold cathode device

## **Answers**

SAMPLE

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

SAMPLE

## **Explanations**

SAMPLE

**1. What is the effect of using lower kilovoltage peak (kVp) on scatter radiation production?**

- A. It increases scatter radiation
- B. It decreases scatter radiation**
- C. It has no effect on scatter radiation
- D. It doubles the amount of scatter radiation

*Using a lower kilovoltage peak (kVp) in fluoroscopy and radiography has a significant effect on the production of scatter radiation. Lowering the kVp results in a decreased energy of the x-rays generated. This decrease in energy leads to a higher probability of interaction between x-ray photons and the tissues. When x-ray photons interact with matter, particularly soft tissues, they can undergo Compton scattering, where an x-ray photon collides with an electron and scatters in a different direction while losing energy. With lower energy photons, the likelihood of these scattering events increases, but this can also lead to a situation where the overall scatter radiation produced is effectively reduced due to the limitation in the penetration ability of lower-energy photons. In essence, lower kVp settings tend to result in less overall photon transmission through the patient, which leads to fewer interactions with tissues that would produce scatter. This reduction in scatter is advantageous in imaging because it improves image quality by minimizing haze and enhancing contrast. Therefore, utilizing lower kVp effectively decreases the amount of scatter radiation produced in the imaging process.*

**2. To create an appearance of motion without flicker, how often must a television frame be completed?**

- A. 1/30 sec**
- B. 1/10 sec
- C. 1/60 sec
- D. 1/5 sec

*The correct answer reflects the standard requirement for the refresh rate in traditional television broadcasting. In order to create a smooth and continuous appearance of motion without perceptible flicker, the frame should be completed every 1/30 of a second (or 30 frames per second). This refresh rate helps to ensure that motion appears fluid to the human eye. When frames are displayed at this rate, they overlap in a way that mitigates flicker and enhances the illusion of motion, making it ideal for video display technology used in television. The threshold for perceiving flicker typically occurs at around 16 to 24 frames per second, and 30 frames per second is widely recognized as a standard for most television content to sustain proper visual experience. The other options present varying refresh rates that are either insufficient for maintaining fluid motion without flicker, such as 1/10 or 1/5 seconds, or may not correspond to standardized broadcast rates, like 1/60 seconds which, while common in some high-definition settings, is not the traditional standard for all television broadcasts. Thus, they do not fulfill the requirement for a flicker-free visual experience in the context asked in the question.*

**3. When operating in magnification mode, what happens to the field of view of an image intensifier?**

- A. The field of view is increased
- B. The field of view is decreased**
- C. The electron beam is expanded
- D. The voltage on the accelerating anode is increased

*In magnification mode, the field of view of an image intensifier is decreased. This occurs because magnification is achieved by focusing on a smaller area of the input image, which increases the size of the image being displayed on the output screen. Essentially, you are zooming in on a specific region of interest rather than capturing the entire scene, leading to a more detailed examination of that smaller area. This zooming in results in a reduced overall field of view, as the system prioritizes enhanced detail over capturing a broad perspective. This characteristic is crucial during procedures requiring precision, allowing practitioners to closely observe specific anatomical structures or abnormalities without interference from adjacent areas.*

**4. Fluoroscopic operator exposure to scattered radiation is directly proportional to which factor?**

- A. X-ray beam quality
- B. X-ray beam energy
- C. Image brightness
- D. Patient exposure**

*Fluoroscopic operator exposure to scattered radiation is directly proportional to patient exposure. When a patient is irradiated during a fluoroscopic procedure, a certain amount of the radiation interacts with the patient's tissues and generates scatter radiation. This scattered radiation can then be directed back towards the operator, contributing to their exposure. As the amount of radiation absorbed by the patient increases, due to factors such as higher doses or longer exposure times, there is a corresponding increase in the amount of scatter produced. Consequently, operators are more likely to be exposed to higher levels of scattered radiation. Understanding this relationship is fundamental for practicing safe fluoroscopic techniques, as minimizing patient exposure not only reduces the risk to the patient, but also decreases the scatter that the operator is exposed to, enhancing overall safety in the fluoroscopy environment.*

**5. Which of the following components supply electrical power to the x-ray tube?**

- A. x-ray transformer
- B. x-ray generator**
- C. kVp meter
- D. mA meter

*The x-ray generator is the component responsible for supplying electrical power to the x-ray tube. It converts the incoming electrical energy into the appropriate voltages and currents needed for x-ray production. The generator typically includes a high-voltage transformer to increase the voltage and control circuits to manage the x-ray exposure settings. Additionally, the generator regulates both the kilovoltage peak (kVp) and the milliamperes (mA) that are essential for producing x-rays. The kVp determines the quality and penetrative power of the x-rays, while the mA controls the quantity or intensity of the x-ray beam. In contrast, the x-ray transformer and the meters have specific roles; the transformer is part of the generator that modifies voltage levels, while the meters measure the performance parameters but do not supply power themselves.*

**6. What term describes coordinating x-ray production to avoid exposure while advancing cine film?**

- A. Framing sequence
- B. Framing frequency
- C. Synchronization**
- D. Interlacing

*The term that effectively describes the coordination of x-ray production to prevent exposure while advancing cine film is "synchronization." In the context of radiography and fluoroscopy, synchronization refers to the precise timing and coordination of imaging equipment functions. This is critical when dealing with cine films, as it ensures that x-ray exposures are made only when the film is stationary, eliminating the risk of blurring and enhancing image clarity. In cine imaging, the film must be moved in a manner that aligns with the x-ray exposure sequence. If the exposure occurs while the film is still moving, it can lead to poor quality images due to motion artifacts. Thus, synchronization ensures that x-ray production and film advancement are harmonized, allowing for a clear and accurate representation of the anatomical structures being examined. Other terms presented, such as "framing sequence" or "framing frequency," do not specifically capture the essence of the timing relationship between x-ray production and film advancement. "Interlacing" is more often associated with video technology and does not apply in this context. Therefore, synchronization is the most accurate choice as it encompasses the necessary technical coordination between these two processes.*

**7. The rendered pixel size will have a direct effect on what when viewing the virtual image on a LCD monitor?**

- A. Image brightness
- B. Image size
- C. Image contrast
- D. Image resolution**

*The rendered pixel size plays a crucial role in determining the image resolution displayed on an LCD monitor. Resolution is defined as the amount of detail that an image holds, and it is dependent on the number of pixels used to represent the image. When the pixel size is smaller, more pixels can fit into a given area, which increases the overall resolution and allows for finer details to be visible in the virtual image. Conversely, larger pixels meaning fewer pixels in the same area can result in a loss of detail and a decrease in image clarity. In terms of the other options, while image brightness, image size, and image contrast are important attributes of the displayed image, they are influenced by different factors, such as the monitor's settings, the source material, and the image processing algorithms applied, rather than directly by pixel size. Therefore, the relationship between rendered pixel size and image resolution is the most significant when considering how the image appears on the screen.*

**8. What term describes the brightness gain achieved by the efficiency of an output phosphor to convert electrons to light photons?**

- A. flux gain
- B. conversion efficiency gain
- C. minification gain
- D. total brightness gain**

*The term that describes the brightness gain achieved by the efficiency of an output phosphor to convert electrons to light photons is referred to as total brightness gain. This concept encompasses both the minification gain and the flux gain within the fluoroscopic imaging system. Understanding the total brightness gain is crucial because it represents the overall capability of the system to produce a bright image, which is essential for enhancing visualization during procedures. The output phosphor serves as an important component; it transforms the accelerated electrons (produced by the input phosphor after X-ray exposure) into visible light. High conversion efficiency of the output phosphor leads to a greater number of light photons emitted per unit of input electrons, thus improving the image brightness. In fluoroscopy, a greater total brightness gain translates to enhanced visibility of anatomy and pathology, allowing for better diagnosis and assessment during procedures. Having a grasp of this term can aid in comprehending how various components of a fluoroscopy unit contribute to image quality and performance.*

**9. What is the most frequently witnessed phenomenon in growing tissue exposed to radiation?**

- A. Formation of giant cells or other abnormal mitosis
- B. Chromosomal breaks
- C. Cessation of cell division**
- D. Clumping of chromatin

*In the context of growing tissue exposed to radiation, the most frequently observed phenomenon is the cessation of cell division. When living tissue is exposed to radiation, especially at doses that can affect cellular processes, radiation can interfere with the normal cell cycle, leading to a halt in mitosis. This interruption occurs as radiation can damage cellular structures, including DNA, which is critical for the cell division process. When cells sustain significant DNA damage, they may enter a state of arrest to allow for potential repair mechanisms to come into play. However, if the damage is too severe or irreparable, the affected cells can either undergo apoptosis (programmed cell death) or become senescent, leading to a permanent cessation of division. This phenomenon is particularly problematic in rapidly dividing tissues, as it can impact overall tissue growth and regeneration. On the other hand, while the formation of giant cells, chromosomal breaks, and clumping of chromatin are also recognized effects of radiation exposure, they are typically observed under specific conditions or at certain doses. The cessation of cell division is a broader and more immediate response seen in various types of tissues when exposed to radiation, making it the most commonly noted phenomenon in this context.*

**10. A digital camera uses a specific device to capture light from the output phosphor on an image intensifier. What is this device?**

- A. Closed circuit digital
- B. Contrast control device
- C. Charge coupled device**
- D. Cold cathode device

*The device used in a digital camera to capture light from the output phosphor on an image intensifier is a Charge Coupled Device (CCD). This technology is integral to converting the light received into electronic signals that can be processed to create a digital image. CCDs are known for their high sensitivity to light, making them especially effective in low-light conditions, which is essential in medical imaging and fluoroscopy applications. When light from the output phosphor strikes the CCD, it generates an electrical charge proportional to the amount of light received. These charges are then transferred through the device and converted into digital data, enabling the creation of high-quality images. The ability of CCDs to capture fine details makes them the preferred choice in many imaging systems, including those used in fluoroscopy. The other options pertain to different technologies or components that do not specifically relate to the function of capturing light in this context. For instance, closed circuit digital typically refers to a system setup rather than a specific light-capturing device, while contrast control devices are designed to adjust the visual output of images rather than capture light. Cold cathode devices focus on electron emission rather than the direct capture of light in imaging systems.*

## 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://cafluoroscopystateboard.examzify.com>

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

SAMPLE