

# REMBE Electrotherapy 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

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- 1. The clinical effect of mild general body heating is**
  - A. Decrease in blood pressure**
  - B. Increase in pulse rate**
  - C. Both A and B**
  - D. Neither A nor B**
  
- 2. Which radiation type is associated with minimal erythema persisting for 24-26 hours?**
  - A. Infrared radiation**
  - B. Ultraviolet radiation**
  - C. Minimal erythema**
  - D. Second-degree erythema**
  
- 3. The most unfavorable prognosis is associated with which reaction?**
  - A. Accompanies partial reaction of degeneration**
  - B. Accompanies full reaction of degeneration**
  - C. Accompanies absolute reaction of degeneration**
  - D. Reaction of degeneration is not involved**
  
- 4. The major portion of radiation from long infrared is absorbed in the skin layer?**
  - A. Corium of the skin**
  - B. Subcutaneous layers of the skin**
  - C. Stratum corneum**
  - D. Stratum mucosum**
  
- 5. Ultrasound therapy shows the greatest temperature rise in tissues that are high in protein content; which tissue is this?**
  - A. Cartilage**
  - B. Adipose**
  - C. Tendon**
  - D. Protein**

- 6. Which statement indicates that the reaction of degeneration is not involved?**
- A. Accompanies partial reaction of degeneration**
  - B. Accompanies full reaction of degeneration**
  - C. Accompanies absolute reaction of degeneration**
  - D. Reaction of degeneration is not involved**
- 7. The magnetron oscillator is a component of the:**
- A. Short-wave diathermy**
  - B. Ultrasound generator**
  - C. Low-frequency generator**
  - D. Microthermy**
- 8. In high-frequency diathermy, a wavelength of 22 meters corresponds to which frequency?**
- A. 27.12 MHz**
  - B. 40 MHz**
  - C. 13.56 MHz**
  - D. None of the above**
- 9. Cavitation from ultrasound in tissue layers can result from which intensity level?**
- A. Low intensity**
  - B. Higher than therapeutic intensity**
  - C. Therapeutic intensity**
  - D. High intensity**
- 10. In iontophoresis, the intensity of the acid and alkaline reactions at the poles depends on which of the following?**
- A. The intensity of the current at each pole**
  - B. The relative density of the current at each pole**
  - C. Both A and B**
  - D. Neither A nor B**

## Answers

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

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## **Explanations**

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**1. The clinical effect of mild general body heating is**

- A. Decrease in blood pressure**
- B. Increase in pulse rate**
- C. Both A and B**
- D. Neither A nor B**

Mild general body heating triggers peripheral vasodilation as the body tries to dissipate heat. This lowers systemic vascular resistance and often reduces blood pressure. At the same time, heat stress activates reflex mechanisms that increase heart rate to maintain adequate cardiac output and tissue perfusion, so the pulse rate goes up. Put together, the clinical effect is a decrease in blood pressure with an increase in pulse rate.

**2. Which radiation type is associated with minimal erythema persisting for 24-26 hours?**

- A. Infrared radiation**
- B. Ultraviolet radiation**
- C. Minimal erythema**
- D. Second-degree erythema**

When skin is exposed to UV light, the redness that appears can vary in intensity and duration. The mild, precisely timed response is called minimal erythema: a faint reddening that becomes noticeable about 24 hours after exposure and tends to last around a day, roughly 24-26 hours. This specific pattern—very light redness that persists roughly a day after UV exposure—fits the description given, making minimal erythema the best match. Infrared exposure mainly causes heat without producing this distinct, short-lived redness pattern. A second-degree erythema would indicate a more serious burn with potential blistering and a longer healing time. So the term that best captures a faint, UV-induced reddening lasting about a day is minimal erythema.

**3. The most unfavorable prognosis is associated with which reaction?**

- A. Accompanies partial reaction of degeneration**
- B. Accompanies full reaction of degeneration**
- C. Accompanies absolute reaction of degeneration**
- D. Reaction of degeneration is not involved**

The extent of a degenerative reaction directly influences prognosis: the more completely degeneration involves the tissue, the poorer the outcome. When degeneration is only partial, some healthy tissue remains and function can be preserved or restored, giving a relatively better prognosis. A full reaction means widespread degeneration, leading to substantial functional loss, but there may still be some residual capability. However, an absolute reaction indicates that all components are degenerated, leaving little to no viable tissue to recover and making recovery unlikely. If degeneration isn't involved at all, the prognosis would naturally be the most favorable. Therefore, the absolute reaction of degeneration corresponds to the most unfavorable prognosis.

4. The major portion of radiation from long infrared is absorbed in the skin layer?

- A. Corium of the skin**
- B. Subcutaneous layers of the skin**
- C. Stratum corneum**
- D. Stratum mucosum**

Infrared energy interacts with skin most where the tissue has abundant water and vascular content, which is the dermis. Long infrared photons penetrate the outer epidermal layers relatively readily, but the energy is most effectively absorbed by the dermal layer's water-rich connective tissue and capillaries, turning into heat and warming the underlying tissues. The outermost layer, the stratum corneum, is thin and quite dry, so it doesn't absorb much of the IR energy. The deeper subcutaneous tissues are reached less because the energy is largely attenuated in the dermis first. That makes the corium (dermis) the primary site of absorption for long infrared.

5. Ultrasound therapy shows the greatest temperature rise in tissues that are high in protein content; which tissue is this?

- A. Cartilage**
- B. Adipose**
- C. Tendon**
- D. Protein**

Ultrasound heating depends on how much energy the tissue absorbs, and absorption increases with tissue protein content, especially collagen. The more protein-rich a tissue is, the more energy it converts to heat under the same ultrasound settings. Among the options, the tissue described as highly protein-containing aligns with the scenario of the greatest temperature rise, so it best fits the idea that protein-rich tissue heats the most. Adipose has low protein and thus lower absorption, while cartilage contains protein but isn't as protein-dense as the highly protein-rich tissue, so it heats less under the same conditions. The takeaway: heating under ultrasound tracks how much protein-oriented material a tissue has, with higher protein content yielding greater temperature rise.

6. Which statement indicates that the reaction of degeneration is not involved?

- A. Accompanies partial reaction of degeneration**
- B. Accompanies full reaction of degeneration**
- C. Accompanies absolute reaction of degeneration**
- D. Reaction of degeneration is not involved**

The main idea here is whether a degenerative reaction occurs alongside the process. If degeneration is involved, the statements would say it accompanies partial, full, or absolute degeneration, signaling that a degenerative response is present. The only option that fits the prompt of "not involved" is the one that asserts no degenerative reaction occurs. So, the correct choice is the statement that the reaction of degeneration is not involved, meaning the process proceeds without any degenerative changes.

7. The magnetron oscillator is a component of the:

- A. Short-wave diathermy
- B. Ultrasound generator
- C. Low-frequency generator
- D. Microthermy**

Microwave heating relies on dielectric heating of tissues, which is produced by a magnetron oscillator. The magnetron converts electrical energy into high-frequency microwave energy that can penetrate to deep tissues, and this is the mechanism behind microthermy. Ultrasound therapy uses mechanical sound waves from a piezoelectric transducer, so a magnetron isn't involved. Lower-frequency generators deliver electrical stimulation or heating at frequencies far below microwaves, not the microwave range. Short-wave diathermy uses RF energy in the shortwave band, which is a different modality from microwaves. Because microthermy is specifically about heating with microwaves generated by a magnetron, this option is the best match.

8. In high-frequency diathermy, a wavelength of 22 meters corresponds to which frequency?

- A. 27.12 MHz
- B. 40 MHz
- C. 13.56 MHz**
- D. None of the above

The key idea is how wavelength and frequency relate for electromagnetic waves:  $f = c/\lambda$ , where  $c$  is about  $3 \times 10^8$  m/s in free space. If the wavelength is 22 meters, the frequency is  $3 \times 10^8$  divided by 22, which is roughly 13.6 MHz. In HF diathermy, 13.56 MHz is a standard medical frequency, so it aligns with both the calculation and typical usage. Checking the other options, they would correspond to shorter wavelengths (about 11 m for 27.12 MHz and about 7.5 m for 40 MHz), not 22 m. Therefore, 13.56 MHz is the best match.

9. Cavitation from ultrasound in tissue layers can result from which intensity level?

- A. Low intensity
- B. Higher than therapeutic intensity**
- C. Therapeutic intensity
- D. High intensity

Cavitation is a mechanical effect that happens when the acoustic pressure from ultrasound becomes large enough to make tiny gas nuclei or dissolved gases form bubbles, which can then oscillate and even violently collapse. This requires a higher acoustic pressure than those used in normal diagnostic or safe, standard therapeutic settings. In practice, diagnostic ultrasound and approved therapeutic ranges are chosen to stay below the threshold that would reliably produce cavitation. When you use a level of intensity higher than what's considered therapeutic, the pressure amplitudes increase enough to nucleate and drive cavitation in tissue layers. That's why cavitation is associated with intensities exceeding the therapeutic range rather than with the typical low or therapeutic levels. So, cavitation from ultrasound in tissue layers can result from higher than therapeutic intensity, because only at those elevated energy levels is the acoustic pressure sufficient to form and collapse microbubbles.

**10. In iontophoresis, the intensity of the acid and alkaline reactions at the poles depends on which of the following?**

- A. The intensity of the current at each pole**
- B. The relative density of the current at each pole**
- C. Both A and B**
- D. Neither A nor B**

In iontophoresis, the chemical changes at the electrode surfaces (acid at the anode and alkali at the cathode) are driven by electrical current. The amount of these reactions depends on the charge passing through the tissue, which is the product of current and time. But how strongly the reactions occur at each pole also depends on how that current is distributed across the electrode area. If the current is high, more ions are pushed and the local pH change is stronger. If the same current is spread over a larger area, the current density is lower and the reaction is less intense; if it's concentrated on a smaller area, the reaction is more intense. Therefore, both the overall current intensity and the current density at each pole determine the acid and alkaline reaction strengths.

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## 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://rembeelectrotherapy.examzify.com>**

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

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