

# Registered Electroencephalographic Technologist (R. EEG T.) Practice Exam (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. Which aura is associated with Heschl's gyrus?**
  - A. Somatosensory aura**
  - B. Visual aura**
  - C. Olfactory aura**
  - D. Auditory aura**
  
- 2. What is usually the first line of treatment for new-onset epilepsy in adults?**
  - A. Antipyretics**
  - B. Antiepileptic drugs**
  - C. Surgery**
  - D. Physical therapy**
  
- 3. When a large amount of electrode paste is used to hold EEG electrodes in place, the total recording area will be:**
  - A. Diameter of the EEG electrode**
  - B. Scalp surface area of the paste**
  - C. Inner plus outer surface area of the electrode**
  - D. Inner surface area of the electrode**
  
- 4. Which of the following best describes the purpose of filters in EEG?**
  - A. To amplify brain signals**
  - B. To eliminate noise**
  - C. To balance impedances**
  - D. To calibrate electrodes**
  
- 5. What does the presence of unilateral Babinski signs typically indicate?**
  - A. Cerebellar dysfunction**
  - B. Pyramidal tract dysfunction**
  - C. Tic Doulourex**
  - D. Homonymous hemianopsia**

- 6. Which of the following should be avoided in EEG because it may increase the capacitive current to a potentially dangerous amount?**
- A. Ohm meter**
  - B. Non cephalic electrodes**
  - C. Common ground**
  - D. Extension cord**
- 7. What is most important to document in the history of your EEG patient?**
- A. Cardiac history**
  - B. Psychiatric history**
  - C. Head circumference**
  - D. Last seizure**
- 8. What is the primary clinical use of the EEG in patients?**
- A. To assess brain injuries**
  - B. To diagnose neurodegenerative diseases**
  - C. To evaluate seizure disorders**
  - D. To monitor anesthesia**
- 9. High voltage theta or delta waves are commonly seen in children aged 8-14 and are accentuated by:**
- A. Sleep deprivation**
  - B. Hyperventilation**
  - C. Intrusive thoughts**
  - D. Caffeine**
- 10. Which of the following best describes secondary bilateral synchrony?**
- A. Generates simultaneous generalized discharges**
  - B. Originates from both temporal lobes at the same time**
  - C. Reflects rapid generalization from one or multiple sources**
  - D. Produces 3Hz spike and wave discharges**

## Answers

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

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## **Explanations**

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## 1. Which aura is associated with Heschl's gyrus?

- A. Somatosensory aura
- B. Visual aura
- C. Olfactory aura
- D. Auditory aura**

Heschl's gyrus, located in the superior temporal gyrus, is primarily responsible for processing auditory information. It is the main cortical area for hearing and plays a critical role in how we perceive sound, including basic auditory processing and the identification of complex sounds. Given that Heschl's gyrus focuses on auditory stimuli, it is naturally associated with auditory auras. These auras can manifest as various auditory phenomena, such as hearing sounds or music that is not present, which could be experienced by individuals before a seizure or other neurological event. This connection directly correlates auditory processing in the brain with the symptoms experienced in auditory auras. In contrast, the other types of auras mentioned do not involve Heschl's gyrus: somatosensory aura relates to tactile sensations, visual aura pertains to visual disturbances, and olfactory aura involves the sense of smell. Each of these auras corresponds to different brain areas—such as the parietal lobe for somatosensory experiences and the occipital lobe for visual processing—further emphasizing that the auditory aura is specifically linked to the function of Heschl's gyrus in the context of seizure activity and neurological conditions.

## 2. What is usually the first line of treatment for new-onset epilepsy in adults?

- A. Antipyretics
- B. Antiepileptic drugs**
- C. Surgery
- D. Physical therapy

The first line of treatment for new-onset epilepsy in adults typically involves the use of antiepileptic drugs (AEDs). These medications are designed to reduce the frequency and severity of seizures by stabilizing neuronal activity and counteracting the excessive excitability of neurons associated with epileptic seizures. The choice of specific antiepileptic medications can vary depending on factors such as the type of seizures, the individual's overall health, and potential side effects, but the prioritization of drug therapy in managing epilepsy is well established in clinical guidelines. Antipyretics, while useful in treating fever, do not address the underlying issue of epilepsy and are therefore not a relevant treatment option for managing seizure disorders. Surgery is typically considered only for cases that do not respond to medication or when a structural lesion responsible for seizures is identified. Similarly, physical therapy is not a standard treatment modality for epilepsy; it may play a supportive role in addressing some aspects of care, but it does not directly treat the condition itself. Thus, antiepileptic drugs remain the cornerstone of initial treatment for new-onset epilepsy in adults.

3. When a large amount of electrode paste is used to hold EEG electrodes in place, the total recording area will be:
- A. Diameter of the EEG electrode
  - B. Scalp surface area of the paste**
  - C. Inner plus outer surface area of the electrode
  - D. Inner surface area of the electrode

The total recording area when a large amount of electrode paste is used to hold EEG electrodes in place corresponds to the scalp surface area of the paste. This is because the electrode paste not only facilitates adherence of the electrodes to the scalp but also enhances the conductivity of the electrical signals between the scalp and the electrodes. When a significant amount of paste is applied, it creates a larger contact area with the scalp than just the diameter of the electrode itself. This expanded contact area improves the quality of the signal recorded and can minimize impedance, contributing to more accurate EEG readings. Additionally, considerations such as the thickness and distribution of the paste can further affect the effective surface area in contact with the scalp, making option B the most comprehensive and accurate representation of the total recording area in this scenario.

4. Which of the following best describes the purpose of filters in EEG?
- A. To amplify brain signals
  - B. To eliminate noise**
  - C. To balance impedances
  - D. To calibrate electrodes

The primary purpose of filters in EEG is to eliminate noise from the recorded brain signals. EEG signals are often obscured by various forms of noise, including electrical interference from other devices, movements of the patient, and even physiological artifacts like eye blinks or muscle activity. By applying specific filters, the EEG technician can enhance the clarity of the brainwave patterns, allowing for a more accurate assessment and analysis of the electrical activity of the brain. Filters help in isolating the frequency ranges of interest by allowing certain frequencies to pass while attenuating others, which significantly improves the signal-to-noise ratio. This means that the desired EEG patterns become more discernible against the background of noise. Consequently, effective filtering is essential for producing high-quality EEG recordings that are crucial for diagnosis and research. The other options relate to different aspects of EEG setup and processing but do not directly address the function of filters. Amplification, balancing impedances, and calibrating electrodes deal with ensuring the quality of the signal and the proper functioning of the EEG equipment rather than specifically targeting the removal of noise from the recorded data.

**5. What does the presence of unilateral Babinski signs typically indicate?**

- A. Cerebellar dysfunction**
- B. Pyramidal tract dysfunction**
- C. Tic Doulourex**
- D. Homonymous hemianopsia**

The presence of unilateral Babinski signs typically indicates pyramidal tract dysfunction. The Babinski sign is a reflex that is observed in response to stimulating the sole of the foot. In children, it is normal for the toes to fan out; however, in adults, a positive Babinski sign, where the big toe extends upwards and the other toes fan out, suggests damage to the corticospinal tract or pyramidal system. This unilateral manifestation indicates that there is likely localized injury or dysfunction in the brain or spinal cord affecting the pathways responsible for voluntary motor control on one side of the body. The pyramidal tract's role is crucial in carrying signals from the motor cortex to the spinal cord, so when there is dysfunction in this tract, it can result in abnormal reflexes like the Babinski sign. Other options present alternative conditions but do not align with the typical significance of a Babinski sign. For instance, cerebellar dysfunction would generally produce more coordination and balance issues rather than an isolated reflex response like the Babinski sign. Tic Doulourex is related to trigeminal neuropathy and has no connection to the pyramidal tract, while homonymous hemianopsia refers to visual field loss and is unrelated to motor reflex responses. Thus,

**6. Which of the following should be avoided in EEG because it may increase the capacitive current to a potentially dangerous amount?**

- A. Ohm meter**
- B. Non cephalic electrodes**
- C. Common ground**
- D. Extension cord**

The use of an extension cord in EEG (electroencephalography) setups should be avoided due to the potential for increasing capacitive current, which can lead to interference in the EEG signals or even introduce a risk of electrical hazards. Extension cords can create a longer path for electrical currents, which may inadvertently increase the capacitive coupling between the EEG equipment and the electrical noise present in the environment. This increased capacitive current can lead to artifacts in the EEG recordings and may even pose safety issues for both the patient and the technologist. In an EEG environment, where precision and clarity of signals are fundamental for accurate interpretation, it's crucial to ensure that all equipment is set up effectively without unnecessary additions like extension cords that could compromise the integrity of the readings. Ensuring that the electrical connections are solid and minimizing unnecessary lines helps maintain a controlled environment where the risk of unwanted electrical interference is minimized.

**7. What is most important to document in the history of your EEG patient?**

- A. Cardiac history**
- B. Psychiatric history**
- C. Head circumference**
- D. Last seizure**

Documenting the last seizure is crucial in the history of an EEG patient because it provides specific, pertinent information about the patient's condition and can significantly impact the interpretation of the EEG results. The timing of the last seizure can help clinicians assess the frequency, type, and potential triggers of seizures, which are critical in diagnosing epilepsy or other seizure disorders. Additionally, understanding when the last seizure occurred allows for a more accurate baseline comparison during the EEG study. While cardiac history, psychiatric history, and head circumference can also be relevant in specific contexts, they do not carry the same immediate relevance as the timing of the last seizure in relation to EEG interpretation and potential seizure activity during the recording. Knowing the last seizure enables the technologist and neurologist to better correlate the electroencephalographic findings with the patient's clinical history and symptoms.

**8. What is the primary clinical use of the EEG in patients?**

- A. To assess brain injuries**
- B. To diagnose neurodegenerative diseases**
- C. To evaluate seizure disorders**
- D. To monitor anesthesia**

The primary clinical use of EEG (electroencephalography) in patients is to evaluate seizure disorders. EEG is especially valuable in identifying abnormal electrical activity in the brain, which is a hallmark of epilepsy and other seizure-related conditions. The test records brain waves, allowing healthcare professionals to determine the type of seizure, locate the area of the brain that may be malfunctioning, and guide appropriate treatment options. While EEG can indeed be utilized in assessing brain injuries, diagnosing neurodegenerative diseases, and monitoring anesthesia, these uses are secondary to its role in seizure characterization and management. EEG is the cornerstone diagnostic tool for evaluating the presence, type, and frequency of seizures, making it indispensable in the assessment of patients with suspected seizure disorders. This specificity to seizure activity highlights the unique and critical application of EEG in clinical practice.

**9. High voltage theta or delta waves are commonly seen in children aged 8-14 and are accentuated by:**

- A. Sleep deprivation**
- B. Hyperventilation**
- C. Intrusive thoughts**
- D. Caffeine**

High voltage theta or delta waves are indeed commonly observed in children, particularly in the age group of 8 to 14 years. Hyperventilation is an important physiological maneuver that can accentuate these slower brainwave patterns. When a person hyperventilates, they breathe more rapidly or deeply than normal, which can lead to changes in blood gas levels, specifically a decrease in carbon dioxide (CO<sub>2</sub>). This can inadvertently increase the amplitude of certain brainwave frequencies, including theta and delta waves. In the context of an EEG, hyperventilation alters cerebral blood flow and can enhance the expression of these waves, making them more pronounced. This is particularly relevant when measuring brain activity in a clinical or diagnostic setting, where hyperventilation is often used as a provocation test to assess seizure activity or to evaluate brain function. Understanding this response helps in recognizing how different physiological states can impact EEG readings, especially in children where developmental factors also play a part. The changes observed in brainwave patterns due to hyperventilation can provide valuable insights into a child's neurological status or overall brain health.

**10. Which of the following best describes secondary bilateral synchrony?**

- A. Generates simultaneous generalized discharges**
- B. Originates from both temporal lobes at the same time**
- C. Reflects rapid generalization from one or multiple sources**
- D. Produces 3Hz spike and wave discharges**

Secondary bilateral synchrony refers to a phenomenon in electroencephalography where there is a rapid spread of abnormal brain activity from one or multiple focal points, leading to synchronized discharges across both hemispheres of the brain. This synchronization occurs after the initial onset of seizure activity, indicating that the discharges are not originating simultaneously from both sides but rather are a consequence of the spread of activity. The correct answer highlights that this process reflects a rapid generalization from these sources, which is critical in understanding how seizures or abnormal brain activity can propagate through the brain's network. This propagation can lead to an increased level of coordination in the electrical activity observed in EEG readings, which often makes it challenging to localize the original source of the seizure. Understanding this concept helps EEG technologists interpret the EEG findings accurately, particularly in cases where generalized seizure activity is suspected. Recognizing secondary bilateral synchrony allows for better diagnosis and treatment planning, distinguishing it from other types of synchrony that may have different origins and implications.

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

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

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