

ABRET Electroencephalography (EEG) 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. Changes in personality are primarily associated with which lobe of the brain?**
 - A. Frontal lobe**
 - B. Temporal lobe**
 - C. Parietal lobe**
 - D. Occipital lobe**

- 2. What is a common symptom of myoclonus?**
 - A. Severe Emotional Disturbance**
 - B. Sudden Muscle Jerks**
 - C. Temporary Paralysis**
 - D. Loss of Coordination**

- 3. Which fissure separates the motor cortex from the sensory cortex?**
 - A. Central fissure**
 - B. Rolandic fissure**
 - C. Lateral fissure**
 - D. Calcarine fissure**

- 4. Damage to Wernicke's area may lead to which type of aphasia?**
 - A. Expressive aphasia**
 - B. Receptive, fluent aphasia**
 - C. Global aphasia**
 - D. Conduction aphasia**

- 5. What structure maintains collateral perfusion in the brain?**
 - A. Circle of Willis**
 - B. Carotid Artery**
 - C. Jugular Vein**
 - D. Basilar Artery**

- 6. What artery is formed by the joining of the vertebral arteries?**
- A. Basillary**
 - B. Internal carotid**
 - C. Common carotid**
 - D. Posterior cerebral**
- 7. Which term refers to very high voltage, generalized, but anterior-dominant fast activity sometimes found in mental retardation?**
- A. Standard spindles**
 - B. Extreme spindles**
 - C. Regular spindles**
 - D. Fast rhythm spindles**
- 8. What outcome does an EEG measure primarily reflect?**
- A. Electrical activity of the brain**
 - B. Blood flow in the brain**
 - C. Nerve conduction speed**
 - D. Brain cell density**
- 9. Which class of medications, when given in rapidly increasing dosages, is known for having a strong sedative effect?**
- A. Benzodiazepines**
 - B. Barbiturates**
 - C. Antidepressants**
 - D. Non-steroidal anti-inflammatory drugs**
- 10. How is a meningioma typically characterized in terms of its spread?**
- A. Highly invasive**
 - B. Metastatic**
 - C. Encapsulated and non-invasive**
 - D. Spreads through the bloodstream**

Answers

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

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Explanations

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1. Changes in personality are primarily associated with which lobe of the brain?

- A. Frontal lobe**
- B. Temporal lobe**
- C. Parietal lobe**
- D. Occipital lobe**

Personality changes are primarily linked to the frontal lobe due to its critical role in executive functions, which include decision-making, social behavior, and self-control. The frontal lobe is associated with higher cognitive processes and emotional regulation, which significantly contribute to an individual's personality traits and social interactions. When there is damage or dysfunction in the frontal lobe, individuals may exhibit notable alterations in their personality, such as impulsivity, lack of inhibition, or changes in social behavior. Conditions such as traumatic brain injury or certain neurodegenerative diseases that affect the frontal lobe can lead to these personality changes. In contrast, the temporal, parietal, and occipital lobes have different primary functions. The temporal lobe is mainly involved in auditory processing and memory, the parietal lobe integrates sensory information and spatial awareness, and the occipital lobe is dedicated primarily to visual processing. While these regions can impact behavior in various ways, the direct association with changes in personality is most strongly linked to the frontal lobe.

2. What is a common symptom of myoclonus?

- A. Severe Emotional Disturbance**
- B. Sudden Muscle Jerks**
- C. Temporary Paralysis**
- D. Loss of Coordination**

Myoclonus is characterized by sudden, involuntary muscle jerks, which is the hallmark symptom of this condition. These jerks can vary in intensity and frequency, occurring in various parts of the body. They can happen as isolated events or may be more frequent in certain types of myoclonus. Understanding myoclonus involves recognizing that it can be a normal physiological response, like hiccups, or occur as a part of neurological disorders. While conditions may also involve symptoms like emotional disturbances or coordination issues, the defining feature of myoclonus itself is specifically these rapid muscle contractions that can be startling or disruptive. Moreover, the other symptoms mentioned, such as severe emotional disturbance, temporary paralysis, and loss of coordination, do not specifically pertain to myoclonus or characterize it effectively. These could relate to other neurological issues or conditions but do not encapsulate the core nature of myoclonus.

3. Which fissure separates the motor cortex from the sensory cortex?

- A. Central fissure
- B. Rolandic fissure**
- C. Lateral fissure
- D. Calcarine fissure

The fissure that separates the motor cortex from the sensory cortex is known as the Rolandic fissure, which is also commonly referred to as the central sulcus. This structure runs laterally along both hemispheres of the brain, marking the boundary between the precentral gyrus, which is responsible for motor functions, and the postcentral gyrus, which processes sensory information. Understanding the anatomy of the cerebral cortex is crucial in EEG practice as it provides insight into the localization of functions and the interpretation of EEG recordings, especially when analyzing wave patterns related to motor and sensory activities. The other fissures mentioned play different roles: the lateral fissure separates the temporal lobe from the frontal and parietal lobes, while the calcarine fissure is located in the occipital lobe and is involved with visual processing.

4. Damage to Wernicke's area may lead to which type of aphasia?

- A. Expressive aphasia
- B. Receptive, fluent aphasia**
- C. Global aphasia
- D. Conduction aphasia

Damage to Wernicke's area is associated with receptive, fluent aphasia, also known as Wernicke's aphasia. This region is located in the left temporal lobe and is crucial for language comprehension. When Wernicke's area is damaged, individuals may speak in long, fluent sentences that lack meaning or include nonsensical phrases. Although their speech retains a natural rhythm and flow, they often struggle to understand spoken language and may have difficulty following conversations. This contrasts with expressive aphasia, where individuals have difficulty producing language but are typically able to comprehend it. Global aphasia involves extensive damage affecting both language comprehension and production, leading to severe impairment in both speaking and understanding. Conduction aphasia, on the other hand, is characterized by the ability to comprehend and produce language, but the individual has difficulty repeating phrases accurately due to a disconnect between comprehension and speech production pathways. Thus, the impact of damage to Wernicke's area predominantly results in the inability to process language content, making receptive, fluent aphasia the correct characterization.

5. What structure maintains collateral perfusion in the brain?

- A. Circle of Willis**
- B. Carotid Artery**
- C. Jugular Vein**
- D. Basilar Artery**

The Circle of Willis is a critical structure in the brain that plays a vital role in maintaining collateral perfusion. This arterial structure is located at the base of the brain and consists of a circular network of arteries that connect the internal carotid arteries and the basilar artery. Its design allows for collateral circulation, meaning that if one part of the arterial supply is compromised—due to blockage or other issues—the surrounding arteries can compensate by providing blood flow to the affected areas. This redundancy is crucial for preserving cerebral blood flow and ensuring that all parts of the brain receive adequate oxygen and nutrients, especially during instances of ischemia or when one of the main arteries is narrowed or blocked. The interconnected nature of the Circle of Willis provides the brain with an alternative route for blood supply, effectively safeguarding against potential interruptions in perfusion. In contrast, structures like the carotid artery and the basilar artery are major conduits of blood supply to the brain but do not inherently possess the redundancy that the Circle of Willis provides. The jugular vein, while important in draining blood from the brain, does not maintain perfusion but rather plays a role in venous return. Thus, the Circle of Willis is distinctly responsible for maintaining collateral perfusion in the brain.

6. What artery is formed by the joining of the vertebral arteries?

- A. Basilary**
- B. Internal carotid**
- C. Common carotid**
- D. Posterior cerebral**

The basilar artery is formed by the convergence of the two vertebral arteries, which run along the spinal column and supply blood to the brain. This critical vessel plays a significant role in the posterior circulation of the brain, providing oxygenated blood to structures such as the brainstem, cerebellum, and parts of the occipital lobes. Understanding the anatomical relationships and blood supply of the brain is essential for interpreting various clinical scenarios. The internal carotid arteries, common carotid arteries, and posterior cerebral arteries fulfill different roles in cerebral blood supply and are not formed from the union of vertebral arteries. The internal carotid arteries primarily supply the anterior circulation of the brain, while the common carotid arteries branch into the internal and external carotids, and the posterior cerebral arteries branch from the basilar artery itself, underscoring the importance of this particular vessel formed by the vertebral arteries.

7. Which term refers to very high voltage, generalized, but anterior-dominant fast activity sometimes found in mental retardation?

- A. Standard spindles**
- B. Extreme spindles**
- C. Regular spindles**
- D. Fast rhythm spindles**

The term that refers to very high voltage, generalized, but anterior-dominant fast activity sometimes found in mental retardation is "Extreme spindles." Extreme spindles are characterized by their prominence and atypicality compared to standard spindles, both in terms of voltage and distribution across the EEG. They can manifest as a burst of fast activity in the anterior region of the brain, which is often observed in individuals with cognitive impairments, including mental retardation. The presence of these extreme spindles can provide important insights into the neurological status of the individual and may correlate with specific developmental or cognitive conditions. Standard, regular, and fast rhythm spindles do not embody the same characteristics regarding their high-voltage and anterior dominance, which is why they do not apply to this particular instance as accurately as extreme spindles do.

8. What outcome does an EEG measure primarily reflect?

- A. Electrical activity of the brain**
- B. Blood flow in the brain**
- C. Nerve conduction speed**
- D. Brain cell density**

The primary outcome that an EEG measures is the electrical activity of the brain. EEG, or electroencephalography, involves placing electrodes on the scalp to detect and record the electrical impulses produced by neuron activity. These measurements provide valuable insights into the brain's functional state, as they capture real-time fluctuations in electrical potential resulting from synaptic activity among nerve cells. Understanding brain electrical activity is crucial for diagnosing conditions such as epilepsy, sleep disorders, and other neurological conditions. In contrast, blood flow measurements pertain to hemodynamics and are typically assessed using techniques like fMRI or PET scans, necessitating different methodologies. Nerve conduction speed is related to how fast impulses travel along nerves, which does not directly reflect the brain's electrical state. Lastly, brain cell density refers to the number of neurons in a certain volume of brain tissue and does not provide direct information about the brain's dynamic electrical activity. Thus, the EEG's focus on electrical activity effectively distinguishes it from these other physiological measurements.

9. Which class of medications, when given in rapidly increasing dosages, is known for having a strong sedative effect?

A. Benzodiazepines

B. Barbiturates

C. Antidepressants

D. Non-steroidal anti-inflammatory drugs

Barbiturates are a class of medications that are well-known for their strong sedative effects, particularly when administered in rapidly increasing dosages. They work by enhancing the action of the neurotransmitter gamma-aminobutyric acid (GABA) at the GABA-A receptor, which leads to increased neuronal inhibition and a calming effect on the brain. This mechanism makes them effective as sedatives, anesthetics, and anticonvulsants. As the dosage of barbiturates increases, the sedative effect intensifies, which can lead to significant sedation and respiratory depression if not carefully monitored. Because of their potential for overdose and the development of tolerance, barbiturates have largely been replaced by benzodiazepines in many clinical uses, though they are still known for their potency as sedative agents. In contrast, benzodiazepines also have sedative properties but are typically considered safer than barbiturates due to a ceiling effect, which limits their sedative impact even at high doses. Antidepressants are primarily used to treat mood disorders and have varying sedative effects, but they are not predominantly known for causing sedation with dose increases. Non-steroidal anti-inflammatory drugs (NSAIDs) are primarily used for pain relief and

10. How is a meningioma typically characterized in terms of its spread?

A. Highly invasive

B. Metastatic

C. Encapsulated and non-invasive

D. Spreads through the bloodstream

A meningioma is typically characterized as encapsulated and non-invasive. This means that it usually grows within the meninges, the protective membranes that cover the brain and spinal cord, often maintaining a distinct boundary from the surrounding brain tissue. The encapsulated nature of meningiomas allows them to be removed surgically with relative ease compared to more invasive tumors, which can infiltrate nearby brain structures. Additionally, meningiomas usually do not spread to other parts of the body, which is in contrast to metastatic tumors that originate elsewhere and spread through the bloodstream or lymphatic system. Understanding the encapsulated and non-invasive nature is crucial for diagnosis, surgical planning, and predicting the biological behavior of the tumor. This characteristic is particularly significant because it helps inform treatment decisions and the prognosis for individuals diagnosed with meningiomas.

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://abreteeg.examzify.com>

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