Kettering Polysomnography (PSG) Practice Test (Sample)

Study Guide

BY EXAMZIFY

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. Don’t worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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

1. **What is the resistance in a circuit where the current is 5.8 amperes and the voltage is 12 volts?**

   A. 1.50 ohms

   B. 2.06 ohms

   C. 2.43 ohms

   D. 3.00 ohms

2. **What is the recommended low frequency filter (LFF) and high frequency filter (HFF) for an EMG channel?**

   A. 5 / 50

   B. 10 / 100

   C. 15 / 200

   D. 20 / 300

3. **In a split-night study, what is the likely cause of spiked T waves on the ECG channel?**

   A. Hyperkalemia

   B. Hypokalemia

   C. Myocardial infarction

   D. Dehydration

4. **What does a high amplitude burst in EEG usually indicate?**

   A. Sleep onset

   B. Awake state

   C. Deep sleep

   D. Possible seizure activity

5. **What is the recommended decrease in SPO2 needed for an event to be scored as a central apnea?**

   A. 5%

   B. 3%

   C. No required decrease

   D. 10%

6. In interpreting sleep study results, an epoch is generally understood as what?

A. A 30-second time interval

B. A 1-minute time interval

C. A 2-minute time interval

D. A 5-minute time interval

7. What cardiac arrhythmia requires immediate intervention?

A. Atrial fibrillation

B. Ventricular tachycardia

C. Asystole

D. Bradycardia

8. If a unit has a pen deflection of 8 mm and a sensitivity of 5 uV/mm, what is the voltage?

A. 25 uV

B. 40 uV

C. 50 uV

D. 10 uV

9. What is the minimum peak-to-peak voltage needed to identify a K complex?

A. 50 V

B. 100 V

C. 150 V

D. Not stipulated

10. Which type of sleep study is most appropriate for assessing a suspected case of narcolepsy?

A. Polysomnography

B. Home sleep apnea testing

C. Multiple Sleep Latency Test (MSLT)

D. Actigraphy

Answers

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

Explanations

1. What is the resistance in a circuit where the current is 5.8 amperes and the voltage is 12 volts?

A. 1.50 ohms

B. 2.06 ohms

C. 2.43 ohms

D. 3.00 ohms

To find the resistance in a circuit, Ohm's Law is applied, which states that resistance (R) is equal to voltage (V) divided by current (I). The formula is expressed as R = V / I. In this scenario, the current is 5.8 amperes and the voltage is 12 volts. Substituting these values into the equation gives: R = 12 volts / 5.8 amperes. Calculating this results in: R = 2.06896551724. When rounding to two decimal places, this value is approximately 2.07 ohms, which aligns closely with the provided option of 2.06 ohms. This option is therefore the correct choice as it accurately reflects the mathematical relationship dictated by Ohm's Law and the given circuit parameters. Maintaining precision in calculations is essential, as small deviations can impact the interpretation of electrical performance.

2. What is the recommended low frequency filter (LFF) and high frequency filter (HFF) for an EMG channel?

A. 5 / 50

B. 10 / 100

C. 15 / 200

D. 20 / 300

The recommended low-frequency filter (LFF) and high-frequency filter (HFF) settings for an EMG channel are 10 Hz and 100 Hz, respectively. The LFF is set at 10 Hz to effectively eliminate slow-moving baseline drifts while still capturing the essential characteristics of muscle activity. This setting is low enough to allow for the detection of relevant slow waves that are part of muscular function without being influenced by excessive noise or artifacts. The HFF of 100 Hz is chosen to adequately filter out higher-frequency electrical noise that can obscure the signals being recorded. This frequency range helps to ensure that the recorded EMG signals remain clear and free from interference, allowing for accurate interpretation of muscle activity. Using these filter settings ensures that the EMG data remains clinically useful and provides an accurate representation of neuromuscular function, which is critical for sleep studies and other related physiological assessments. Proper adjustment of these filter settings is crucial in polysomnography to ensure accurate data interpretation and diagnosis.

3. In a split-night study, what is the likely cause of spiked T waves on the ECG channel?

A. Hyperkalemia

B. Hypokalemia

C. Myocardial infarction

D. Dehydration

Spiked T waves on the ECG are typically an indication of hyperkalemia, which is an elevated level of potassium in the blood. This condition can alter the normal electrical activity of the heart, resulting in characteristic changes on the ECG, including the appearance of tall, peaked T waves. In the setting of a split-night study, the detection of spiked T waves may prompt further investigation into the patient's electrolyte levels, particularly potassium. Conditions such as renal failure, certain medications, or excessive potassium intake can lead to hyperkalemia, necessitating timely clinical intervention to mitigate potential cardiac complications. The presence of spiked T waves is a critical finding which will guide the clinician toward managing the patient's electrolyte balance effectively. Recognizing these changes in the context of a polysomnography study can lead to a more comprehensive approach in evaluating a patient's overall health and potential underlying issues.

4. What does a high amplitude burst in EEG usually indicate?

A. Sleep onset

B. Awake state

C. Deep sleep

D. Possible seizure activity

A high amplitude burst in an EEG (electroencephalogram) typically indicates possible seizure activity. When assessing EEG readings, bursts of high amplitude waves are often seen during seizures, particularly in specific patterns that deviate from the normal background brain activity. This characteristic spike in amplitude can signify an abnormal electrical discharge in the brain, which is a hallmark of seizure activity. In contrast, sleep onset and deep sleep stages are generally associated with different EEG patterns, such as the presence of sleep spindles and mixed frequency waves. During deep sleep, the amplitude may increase but is usually consistent and rhythmic, rather than exhibiting sharp bursts typical of seizures. The awake state, on the other hand, is usually characterized by lower amplitude and faster frequency waves, such as beta waves, indicating active brain function. Therefore, the identification of high amplitude bursts as potential seizure activity aligns with established neurology and sleep medicine practices.

5. What is the recommended decrease in SPO2 needed for an event to be scored as a central apnea?

A. 5%

B. 3%

C. No required decrease

D. 10%

In the context of scoring central apneas during polysomnography, the key factor is that central apneas are characterized by the absence of respiratory effort, rather than a specific decrease in oxygen saturation (SpO2). Unlike obstructive apneas, where a significant decrease in SpO2 is typically observed due to the blockage of airflow despite ongoing efforts to breathe, central apneas occur when the brain temporarily stops sending signals to the muscles that control breathing. For a central apnea event to be scored, it is not essential to have a particular decrease in SpO2. Thus, the definition inherently allows for the scoring of an event based solely on the cessation of breathing effort for a specified duration (usually at least 10 seconds) without the necessity of a defined hypoxemic threshold. This is why no required decrease in SpO2 is the correct definition for scoring central apneas. The other options suggest specific percentages that imply a threshold for scoring, which does not apply to central apneas since they are identified based on the lack of respiratory effort, irrespective of saturation levels.

6. In interpreting sleep study results, an epoch is generally understood as what?

A. A 30-second time interval

B. A 1-minute time interval

C. A 2-minute time interval

D. A 5-minute time interval

In the context of sleep study results, particularly in polysomnography, an epoch refers to a specific time interval used for recording and analyzing sleep data. Typically, an epoch is defined as a 30-second time period. This duration allows for a detailed assessment of various sleep parameters and brain activity, which aids in categorizing sleep stages and identifying sleep disorders. Using 30-second epochs is standard practice in sleep studies because it strikes a balance between providing enough granular data to observe transitions between sleep stages and not being so lengthy that it masks important changes in sleep architecture. This interval also aligns with the scoring guidelines established by the American Academy of Sleep Medicine, promoting consistency across studies.

7. What cardiac arrhythmia requires immediate intervention?

A. Atrial fibrillation

B. Ventricular tachycardia

C. Asystole

D. Bradycardia

Asystole, which is a state of no electrical activity in the heart, demands immediate intervention because it indicates that the heart is not pumping blood, resulting in a complete lack of circulation. This condition is life-threatening and requires prompt resuscitation efforts, typically through cardiopulmonary resuscitation (CPR) and the use of an automated external defibrillator (AED), if available. Without immediate action, asystole can quickly lead to death due to the body's critical need for oxygenated blood. In contrast, while atrial fibrillation can be concerning and may require management to prevent stroke or tachycardia, it is generally not considered an immediate threat to life. Ventricular tachycardia can become dangerous, especially if sustained or with a pulse, but it does not require the same level of urgent intervention as asystole does. Bradycardia, or an abnormally slow heart rate, can be serious but often does not necessitate immediate action unless it is symptomatic or causing hemodynamic instability.

8. If a unit has a pen deflection of 8 mm and a sensitivity of 5 uV/mm, what is the voltage?

A. 25 uV

B. 40 uV

C. 50 uV

D. 10 uV

To find the voltage given the pen deflection and sensitivity, you multiply the deflection (in millimeters) by the sensitivity (in microvolts per millimeter). In this case, the pen deflection is 8 mm and the sensitivity is 5 µV/mm. Calculating the voltage: Voltage = Pen deflection × Sensitivity Voltage = 8 mm × 5 µV/mm Voltage = 40 µV This demonstrates that when you know both the amount of deflection on the pen and the calibration sensitivity, you can effectively measure the voltage output. The result, 40 µV, corresponds to the choice that correctly represents the calculation based on the parameters provided.

9. What is the minimum peak-to-peak voltage needed to identify a K complex?

A. 50 V

B. 100 V

C. 150 V

D. Not stipulated

In polysomnography, a K complex is defined as a specific waveform that occurs during sleep, often associated with the onset of sleep or the presence of arousals. One important aspect of identifying K complexes is that they are not strictly defined by a specific minimum peak-to-peak voltage. Instead, criteria for identifying K complexes focus more on their morphology, timing, and relationship to other sleep stages rather than a standardized voltage threshold. Unlike some other EEG phenomena, K complexes can be present with varying amplitudes and still be considered valid. Thus, rather than looking for a specific voltage measurement, clinicians rely on the morphology and contextual presence of K complexes during the sleep cycle. This variability allows for more flexibility in interpretation, which is essential for accurately scoring sleep stages and diagnosing sleep disorders. Therefore, the option indicating that there is no stipulated minimum peak-to-peak voltage reflects the understanding that identifying a K complex is based primarily on its shape and timing rather than a numeric voltage threshold.

10. Which type of sleep study is most appropriate for assessing a suspected case of narcolepsy?

A. Polysomnography

B. Home sleep apnea testing

C. Multiple Sleep Latency Test (MSLT)

D. Actigraphy

The Multiple Sleep Latency Test (MSLT) is particularly suited for assessing suspected cases of narcolepsy because it measures the speed of falling asleep during the day. This test typically follows a nighttime polysomnography study and is specifically designed to evaluate excessive daytime sleepiness, a hallmark symptom of narcolepsy. During the MSLT, the patient is given several opportunities throughout the day to nap in a sleep lab setting, and the time it takes them to fall asleep is recorded. A significantly short sleep latency (usually less than 8 minutes) or the occurrence of REM sleep within these naps can indicate narcolepsy. Polysomnography is vital for diagnosing sleep disorders in general, including narcolepsy, by providing a record of sleep stages and breathing patterns, but it alone does not focus specifically on the daytime sleepiness aspect that is central to narcolepsy. Home sleep apnea testing is primarily used to evaluate obstructive sleep apnea and would not adequately address the symptoms and characteristics of narcolepsy. Actigraphy tracks sleep patterns based solely on movement and does not provide detailed information about the stages of sleep or the presence of REM sleep, which are critical for a narcolepsy diagnosis. Thus, the MSLT is the most effective tool

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://ketteringpsg.examzify.com

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