

CERTIFIED RESPIRATORY THERAPIST PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE

<https://certifiedrespiratorytherapist.examzify.com>



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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. What temperature is used to "arterialize" the capillary blood in P_{cO_2} and P_{O_2} electrodes?**
 - A. 38 degrees Celsius
 - B. 40 degrees Celsius
 - C. 42 degrees Celsius
 - D. 44 degrees Celsius

- 2. What device should be used to verify the output accuracy of a Bourdon gauge regulator?**
 - A. Manometer
 - B. Flow restrictor
 - C. Precision flowmeter
 - D. Pressure gauge

- 3. What is the primary purpose of chemical indicators in sterilization processing?**
 - A. To ensure contents are sterile
 - B. To show that a package has gone through sterilization
 - C. To provide real-time sterilization feedback
 - D. To indicate the temperature of the sterilizer

- 4. What is a common indication for performing a tracheostomy?**
 - A. Emergency respiratory infection
 - B. Prolonged mechanical ventilation or airway obstruction
 - C. Routine airway maintenance
 - D. Acute bronchitis

- 5. How is chronic bronchitis characterized?**
 - A. Persistent cough with mucus production
 - B. Shortness of breath without cough
 - C. Intermittent coughing spells
 - D. Dry cough without mucus

- 6. What is the typical tidal volume for an adult at rest?**
- A. 200 mL
 - B. 300 mL
 - C. 500 mL
 - D. 700 mL
- 7. Regarding bronchodilator therapy, what protocol should be adhered to in a hospital setting to minimize infection risk?**
- A. All patients can share equipment
 - B. Not changing equipment ever
 - C. Using individualized nebulizers for every patient
 - D. Changing equipment weekly
- 8. A PET scan is most useful in diagnosing which of the following diseases?**
- A. COPD
 - B. Bronchogenic carcinoma
 - C. Tuberculosis
 - D. Pneumonia
- 9. If a patient's spirometry results show decreased FVC, normal FEV1, and increased FEV1%, what condition is likely present?**
- A. Obstructive disorder
 - B. Restrictive disorder
 - C. Asthma
 - D. Chronic obstructive pulmonary disease (COPD)
- 10. What could explain a leftward shift of the trachea during a physical examination?**
- A. Right upper lobe collapse
 - B. Left upper lobe collapse
 - C. Pneumothorax on the left
 - D. Left pleural effusion

Answers

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

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Explanations

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1. What temperature is used to "arterialize" the capillary blood in P_{cO_2} and P_{O_2} electrodes?

- A. 38 degrees Celsius
- B. 40 degrees Celsius
- C. 42 degrees Celsius
- D. 44 degrees Celsius**

To "arterialize" the capillary blood in partial pressure of oxygen (P_{cO_2}) and partial pressure of carbon dioxide (P_{O_2}) electrodes, a higher temperature, specifically 44 degrees Celsius, is used. This elevated temperature is significant because it helps to increase the solubility of gases in the blood sample, enhancing the diffusion of oxygen into the plasma from the cells within the capillaries. As the temperature rises, the kinetic activity of the gas molecules increases, allowing for improved interaction with the electrode and more accurate readings of the partial pressures of oxygen and carbon dioxide. Using a temperature of 44 degrees Celsius is a standard practice in capillary blood gas analysis to mimic conditions closer to those found in arterial blood, making it possible to obtain results that reliably represent the true oxygenation and ventilation status of the patient. The choice of a lower temperature would not facilitate the same level of gas exchange and might lead to less accurate measurements.

2. What device should be used to verify the output accuracy of a Bourdon gauge regulator?

- A. Manometer
- B. Flow restrictor
- C. Precision flowmeter**
- D. Pressure gauge

The precision flowmeter is the ideal device to verify the output accuracy of a Bourdon gauge regulator because it measures the actual flow rate of gas being delivered. The Bourdon gauge is used to monitor pressure and may not provide a direct indication of flow accuracy. The precision flowmeter provides a quantitative measurement, allowing the clinician to compare the flow delivered by the regulator against the expected values, ensuring that the patient receives the correct amount of gas. On the other hand, while a manometer is useful for measuring pressure, it does not provide flow measurements essential for assessing the performance of the regulator. A flow restrictor would limit the flow but would not measure it, failing to confirm the accuracy of the output. A pressure gauge, like the Bourdon gauge, gives pressure readings but does not assess flow accuracy. Thus, the precision flowmeter is the most appropriate tool for verifying the accuracy of gas delivery from a Bourdon gauge regulator.

3. What is the primary purpose of chemical indicators in sterilization processing?

- A. To ensure contents are sterile
- B. To show that a package has gone through sterilization**
- C. To provide real-time sterilization feedback
- D. To indicate the temperature of the sterilizer

The primary purpose of chemical indicators in sterilization processing is to show that a package has gone through sterilization. These indicators undergo a color change or some form of visual change when exposed to specific sterilization conditions, such as heat or steam, confirming that the sterilization process has been initiated. They are essential for verifying that items have been subjected to the necessary conditions without guaranteeing that the items are sterile. While ensuring the contents are sterile is a vital outcome of successful sterilization, chemical indicators alone do not provide evidence of the sterility of the contents themselves. Similarly, real-time sterilization feedback typically refers to monitoring devices that provide immediate results about the effectiveness of the sterilization process, which goes beyond the capabilities of chemical indicators. Lastly, while temperature indicators are useful for confirming that the sterilizer reached appropriate temperatures, they do not fulfill the role of chemical indicators, which specifically verify exposure to sterilization processes rather than just temperature.

4. What is a common indication for performing a tracheostomy?

- A. Emergency respiratory infection
- B. Prolonged mechanical ventilation or airway obstruction**
- C. Routine airway maintenance
- D. Acute bronchitis

A tracheostomy is a surgical procedure that involves creating an opening in the trachea through the neck to facilitate breathing. One of the main indications for performing a tracheostomy is prolonged mechanical ventilation or significant airway obstruction. In situations where a patient requires long-term respiratory support, a tracheostomy provides a more stable and secure airway compared to endotracheal intubation. It can minimize complications related to prolonged intubation, such as tracheal injury or accidental extubation. Additionally, in cases of airway obstruction due to anatomical issues, severe edema, or other conditions that impede airflow, a tracheostomy can bypass the obstructed area directly, allowing for more effective ventilation. This procedure can greatly improve respiratory function and the patient's overall management when these issues are present.

5. How is chronic bronchitis characterized?

- A. Persistent cough with mucus production**
- B. Shortness of breath without cough
- C. Intermittent coughing spells
- D. Dry cough without mucus

Chronic bronchitis is characterized primarily by a persistent cough that is accompanied by mucus production. This condition is part of a group of respiratory disorders known as chronic obstructive pulmonary disease (COPD). The persistent cough reflects the inflammation and irritation of the airways that leads to increased mucus secretion, which is a hallmark of chronic bronchitis. Over time, this chronic inflammation can reduce airflow and contribute to respiratory distress. In individuals with chronic bronchitis, the cough typically lasts for at least three months and occurs over two consecutive years, providing a clear definition of the condition. The production of sputum, or mucus, is a crucial factor that helps differentiate chronic bronchitis from other respiratory conditions, as this symptom is not present in conditions such as asthma or emphysema in the same manner. Thus, the key features of chronic bronchitis – the persistent nature of the cough along with the production of mucus – underscore the pathophysiology of this chronic respiratory condition.

6. What is the typical tidal volume for an adult at rest?

- A. 200 mL
- B. 300 mL
- C. 500 mL**
- D. 700 mL

The typical tidal volume for an adult at rest is approximately 500 mL. Tidal volume refers to the amount of air that is inhaled or exhaled during normal, relaxed breathing. This volume is significant for effective gas exchange and maintains appropriate levels of oxygen and carbon dioxide in the body. In adults, the average tidal volume can vary based on factors such as body size, age, and fitness level, but 500 mL is considered a standard value in clinical practice and physiology. Understanding this volume is important in respiratory therapy, as it assists therapists in evaluating a patient's lung function and can guide treatments such as mechanical ventilation or other therapeutic interventions. Volumes lower than 500 mL would typically suggest reduced respiratory efficiency or may be seen in certain pathological conditions, while significantly higher volumes might indicate hyperventilation or other respiratory alterations.

7. Regarding bronchodilator therapy, what protocol should be adhered to in a hospital setting to minimize infection risk?

- A. All patients can share equipment
- B. Not changing equipment ever
- C. Using individualized nebulizers for every patient**
- D. Changing equipment weekly

Using individualized nebulizers for every patient is crucial in minimizing infection risk in a hospital setting. This practice ensures that each patient has their own dedicated nebulizer, reducing the risk of cross-contamination and the transmission of pathogens between patients. Since nebulizers can act as vectors for respiratory infections, individualized devices help maintain hygiene and promote patient safety. Infection control protocols are vital in healthcare environments, especially when it comes to respiratory therapy, where aerosolized medications may carry infectious agents. By providing each patient with their own nebulizer, the risk of spreading infections such as COVID-19, bacteria, and other viruses through contaminated equipment is significantly diminished. This measure aligns with best practices in infection control and respiratory therapy. Maintaining individual equipment also allows for better monitoring and management of therapy specific to the needs of each patient, reinforcing the importance of patient-centered care in healthcare settings.

8. A PET scan is most useful in diagnosing which of the following diseases?

- A. COPD
- B. Bronchogenic carcinoma**
- C. Tuberculosis
- D. Pneumonia

A PET scan, or positron emission tomography scan, is particularly useful in diagnosing bronchogenic carcinoma, which is a type of lung cancer originating in the bronchial tubes. The PET scan works by using a radioactive substance that highlights areas of increased metabolic activity, which is characteristic of cancerous cells. This allows for a more accurate identification of malignant tumors compared to conventional imaging techniques. In contrast, while other conditions listed, such as COPD (chronic obstructive pulmonary disease), tuberculosis, and pneumonia, have specific imaging techniques and diagnostic criteria, they do not generally present the same level of metabolic activity detectable by a PET scan. Instead, these conditions are often diagnosed using physical exams, chest X-rays, CT scans, or laboratory tests, which assess lung function and infection rather than the metabolic processes indicative of malignancy found in bronchogenic carcinoma. Therefore, the effectiveness of a PET scan in detecting hypermetabolic activity makes it a superior choice for diagnosing lung cancer.

9. If a patient's spirometry results show decreased FVC, normal FEV1, and increased FEV1%, what condition is likely present?

- A. Obstructive disorder
- B. Restrictive disorder**
- C. Asthma
- D. Chronic obstructive pulmonary disease (COPD)

The scenario described indicates a pattern consistent with a restrictive pulmonary disorder. In this case, a decreased forced vital capacity (FVC) signifies that the total amount of air a patient can forcibly exhale after taking a deep breath is reduced, which is characteristic of restrictive lung conditions. Additionally, normal forced expiratory volume in one second (FEV1) suggests that while the volume of air expelled is reduced overall, the ability to exhale a substantial portion of that volume in the first second is preserved. This situation leads to an increased FEV1%, which is the ratio of FEV1 to FVC. In restrictive disorders, since the FVC is lower but FEV1 remains normal, the ratio can appear increased, reflecting a relatively preserved expiratory capacity in comparison to the reduced lung volume. In contrast, obstructive disorders would typically show a decreased FEV1 alongside a decreased FEV1%, due to significant airflow limitation. Conditions like asthma and COPD, which are examples of obstructive disorders, would not match the spirometry findings presented. Therefore, the spirometry results clearly indicate a restrictive disorder, which aligns with the answer provided.

10. What could explain a leftward shift of the trachea during a physical examination?

- A. Right upper lobe collapse
- B. Left upper lobe collapse**
- C. Pneumothorax on the left
- D. Left pleural effusion

A leftward shift of the trachea during a physical examination indicates a change in the thoracic cavity that pulls the trachea toward the left side. This is typically caused by a mass effect or reduction of volume on the side opposite the shift. In the case of left upper lobe collapse, the left lung loses volume due to the retraction of the lung tissue. As the lung on the left side collapses, the trachea shifts towards that side in response to decreased volume and a decrease in pressure within the thoracic cavity on the left. This shift is a result of the lung's inability to expand normally, leading to a compensatory shift of structures toward the affected side. In contrast, conditions like a pneumothorax on the left would actually cause the trachea to shift toward the opposite side, as the air in the pleural space pushes against the lung, increasing pressure and displacing the mediastinal structures to the right. Likewise, a left pleural effusion would also create a pressure gradient that would push the trachea to the right. A right upper lobe collapse would lead to a leftward shift due to a similar mass effect from the left side, but that is unrelated to the left

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://certifiedrespiratorytherapist.examzify.com>

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

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