

Speech Science Exam 2 Practice (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 of the following is characterized as the "6 pack" muscle?**
 - A. Transversus abdominis**
 - B. Internal oblique**
 - C. Rectus abdominis**
 - D. External obliques**

- 2. In which state are the lungs at their functional residual capacity (FRC)?**
 - A. After a deep inhalation**
 - B. After normal breathing**
 - C. After maximum exhalation**
 - D. During rapid breathing**

- 3. What does respiratory kinematic analysis primarily estimate?**
 - A. Lung volumes from rib cage and abdomen movement**
 - B. The efficiency of airflow during speech**
 - C. Gas exchange efficiency**
 - D. The rate of speech production**

- 4. Which of the following is NOT one of the pressures within the respiratory system?**
 - A. Alveolar pressure**
 - B. Pleural pressure**
 - C. Airway pressure**
 - D. Abdominal pressure**

- 5. What two parts comprise the pulmonary system?**
 - A. The kidneys and bladder**
 - B. The lungs and conducting airways**
 - C. The heart and lungs**
 - D. The brain and spinal cord**

- 6. What factors influence the degree of muscle activity during speech exhalation?**
- A. Breath rate and temperature**
 - B. Intensity of utterance, emphasis, and linguistic stress**
 - C. Length of the utterance and speaker's age**
 - D. Vowel sounds and consonant sounds**
- 7. What allows the thoracic cavity to expand during inhalation?**
- A. Contraction of the diaphragm**
 - B. Relaxation of the intercostal muscles**
 - C. Adaptation of the rib shape**
 - D. Elasticity of lung tissue**
- 8. What constitutes the term "capacities" in lung function?**
- A. Combinations of one or more lung volumes**
 - B. Measures of lung compliance and elasticity**
 - C. Different phases of the breathing cycle**
 - D. Fixed increments of air that cannot change**
- 9. What is the term for the connection created between the lungs and thorax through pleural pressure?**
- A. Intrapleural space**
 - B. Pleural linkage**
 - C. Thoracic pressure**
 - D. Surfactant adhesion**
- 10. Which instrument is used in body plethysmography for calculating lung volumes?**
- A. A sphygmomanometer**
 - B. A spirometer**
 - C. A pressure gauge**
 - D. A box containing the patient**

Answers

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

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Explanations

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1. Which of the following is characterized as the "6 pack" muscle?

- A. Transversus abdominis**
- B. Internal oblique**
- C. Rectus abdominis**
- D. External obliques**

The rectus abdominis is commonly referred to as the "6 pack" muscle due to its appearance when well-defined and strong. This muscle runs vertically along the front of the abdomen and is responsible for flexing the spinal column, contributing to movements like bending forward. When a person has low body fat and engages in exercises that target this muscle, segments or fibers within it become more visible, creating the characteristic six-pack look. The other options refer to muscles that play different roles in core stability and movement. The transversus abdominis acts as a stabilizer for the spine and pelvis and does not have a visual appearance associated with a "6 pack." The internal and external obliques are involved in rotational movements and lateral flexion of the trunk but do not form the segmented look that the rectus abdominis does. Thus, the rectus abdominis is recognized for its prominent '6 pack' look, making it the correct answer in this context.

2. In which state are the lungs at their functional residual capacity (FRC)?

- A. After a deep inhalation**
- B. After normal breathing**
- C. After maximum exhalation**
- D. During rapid breathing**

Functional residual capacity (FRC) refers to the volume of air remaining in the lungs after a normal, passive exhalation. At this point, the lungs are in a state where the forces of the chest wall and the lungs are balanced, allowing for a stable baseline lung volume. After normal breathing, the body reaches FRC naturally, as this volume represents the equilibrium point where no additional air is being inhaled or exhaled. This state is essential for maintaining optimal gas exchange in the lungs between breaths. In contrast, after a deep inhalation, the lungs would be at a higher volume than FRC, and after maximum exhalation, they would be below FRC. During rapid breathing, the lungs are in the process of exchanging air more vigorously and are not at FRC, as they are continually moving towards inhalation or exhalation. Understanding these concepts is crucial for recognizing how lung volumes and capacities relate to respiratory function under different conditions.

3. What does respiratory kinematic analysis primarily estimate?

- A. Lung volumes from rib cage and abdomen movement**
- B. The efficiency of airflow during speech**
- C. Gas exchange efficiency**
- D. The rate of speech production**

Respiratory kinematic analysis primarily estimates lung volumes based on the movements of the rib cage and abdomen during breathing. This analysis involves monitoring the physical motions of these body parts, which directly correlate with the changes in lung volume as a person inhales or exhales. By observing the postural shifts and volume displacement of the rib cage and abdomen, one can infer the amount of air contained in the lungs at any given moment. This method is crucial for understanding how respiratory mechanics contribute to speech production, as optimal lung volume is necessary for effective speech generation. It helps researchers and clinicians assess respiratory function, which is essential in treating voice or speech disorders. The analysis focuses on the physical movements rather than the process of gas exchange, airflow efficiency, or speech rate, which are measured by different techniques and assessments.

4. Which of the following is NOT one of the pressures within the respiratory system?

- A. Alveolar pressure**
- B. Pleural pressure**
- C. Airway pressure**
- D. Abdominal pressure**

Respiratory pressures are essential for understanding how the lungs function during breathing. Alveolar pressure refers to the pressure within the alveoli, which plays a crucial role in the mechanics of inhalation and exhalation. Pleural pressure is the pressure in the pleural cavity, which helps keep the lungs inflated and assists in the breathing process. Abdominal pressure pertains to the pressure within the abdominal cavity, which can influence lung function, especially during heavy breathing or forced exhalation. Airway pressure, while an important concept in the dynamics of airflow through the airways, is not typically categorized as one of the fundamental pressures in the respiratory system. Instead, it corresponds more to the pressure changes that occur due to airflow and resistance in the bronchial tree during breathing. Thus, it does not belong in the primary categorization alongside alveolar, pleural, and abdominal pressures, making it the correct choice for the question.

5. What two parts comprise the pulmonary system?

- A. The kidneys and bladder
- B. The lungs and conducting airways**
- C. The heart and lungs
- D. The brain and spinal cord

The pulmonary system is specifically concerned with the organs and structures that are involved in the process of respiration, which includes the exchange of gases (oxygen and carbon dioxide) between the body and the environment. The correct answer identifies the two components of this system as the lungs and conducting airways. The lungs are the primary organs of the respiratory system where gas exchange occurs. They contain millions of alveoli, tiny air sacs that facilitate the transfer of oxygen into the blood and carbon dioxide out of the blood. The conducting airways, which include structures such as the trachea, bronchi, and bronchioles, are responsible for transporting air to and from the lungs. These airways also help filter, warm, and humidify the air we breathe, ensuring it is suitable for the sensitive lung tissue. In contrast, the other options present components unrelated to the pulmonary system. For instance, the kidneys and bladder are part of the urinary system; the heart plays a vital role in the circulatory system, not the pulmonary system; and the brain and spinal cord comprise the central nervous system. Each of these options deals with different physiological systems, highlighting why understanding the specific components of the pulmonary system is essential in the study of speech science and respiration.

6. What factors influence the degree of muscle activity during speech exhalation?

- A. Breath rate and temperature
- B. Intensity of utterance, emphasis, and linguistic stress**
- C. Length of the utterance and speaker's age
- D. Vowel sounds and consonant sounds

The degree of muscle activity during speech exhalation is significantly influenced by the intensity of the utterance, emphasis, and linguistic stress. When a speaker employs emphatic stress in their speech, additional muscle activity is required to produce a louder and more forceful sound. This heightened intensity demands greater respiratory support and control from the muscles involved in exhalation, including the diaphragm and intercostal muscles, to maintain the desired vocal loudness and clarity. Similarly, linguistic stress, which pertains to the strategic emphasis placed on certain words or syllables to convey meaning, also requires variations in muscle activity to ensure that the speech is perceptually distinct and impactful. Other factors like breath rate and temperature have less direct influence on muscle activity specific to speech exhalation. While the physical state of the speaker may play a role in their overall respiratory function, it does not compare to the targeted activations dictated by the needs of the utterance. Likewise, the length of the utterance and the speaker's age can affect speech production, but they do not directly dictate the level of muscle engagement needed for the execution of various levels of speech intensity and stress. Vowel and consonant sounds can influence articulatory aspects but are not primary factors in determining the muscle activity during

7. What allows the thoracic cavity to expand during inhalation?

- A. Contraction of the diaphragm**
- B. Relaxation of the intercostal muscles**
- C. Adaptation of the rib shape**
- D. Elasticity of lung tissue**

The expansion of the thoracic cavity during inhalation is primarily due to the contraction of the diaphragm. When the diaphragm contracts, it moves downward, increasing the volume of the thoracic cavity. This change in volume causes a decrease in pressure within the cavity compared to the atmospheric pressure outside the body, leading to air being drawn into the lungs. The diaphragm plays a crucial role as the main muscle involved in respiration, and its movement directly facilitates the inhalation process. The intercostal muscles, which are involved in expanding and contracting the rib cage, do not relax during inhalation; instead, they often contract to assist the diaphragm in raising the ribs further, aiding in the overall increase in thoracic volume. The adaptation of rib shape and the elasticity of lung tissue are important for overall pulmonary function, but they do not directly contribute to the expansion mechanism during inhalation the way the contraction of the diaphragm does. Hence, the diaphragm is key to initiating inhalation effectively.

8. What constitutes the term "capacities" in lung function?

- A. Combinations of one or more lung volumes**
- B. Measures of lung compliance and elasticity**
- C. Different phases of the breathing cycle**
- D. Fixed increments of air that cannot change**

The term "capacities" in lung function is defined as combinations of one or more lung volumes. This understanding is crucial because lung capacities provide a more comprehensive view of respiratory function than lung volumes alone. Lung volumes are specific measures of the air contained in the lungs at different phases of the respiratory cycle, while capacities integrate these volumes to reflect the total amount of air that can be utilized during different respiratory activities. For example, vital capacity combines tidal volume, inspiratory reserve volume, and expiratory reserve volume, illustrating how much air can be exhaled after taking the deepest breath possible. Other options focus on separate concepts that do not define "capacities." Measures of lung compliance and elasticity relate more to the physical properties of lung tissue rather than air volume measures. The different phases of the breathing cycle describe actions occurring during ventilation but do not encapsulate lung capacities as defined. Lastly, stating air increments that cannot change disregards the dynamic nature of lung capacities, which can vary due to factors like fitness, health, and disease. Understanding capacities as combinations of volumes aids in assessing overall pulmonary health and functionality.

9. What is the term for the connection created between the lungs and thorax through pleural pressure?

- A. Intrapleural space**
- B. Pleural linkage**
- C. Thoracic pressure**
- D. Surfactant adhesion**

The term "pleural linkage" accurately describes the connection formed between the lungs and the thorax due to pleural pressure. This connection is crucial for effective respiration. The pleural space contains a fluid that creates a negative pressure, allowing the lungs to adhere to the thoracic wall. This linkage ensures that when the thorax expands during inhalation, the lungs are also pulled outward, allowing air to flow in. The intrapleural space refers specifically to the space between the visceral and parietal pleurae, but it does not encompass the dynamic relationship between lung movement and thoracic expansion. Thoracic pressure pertains to the pressure within the thoracic cavity but does not specifically address the connection aspect provided by pleural pressure. Surfactant adhesion relates to surface tension within the alveoli, which helps reduce the effort needed to expand the lungs, but does not refer to the connection between the lungs and thorax. Thus, "pleural linkage" is the most suitable term for the connection formed through pleural pressure.

10. Which instrument is used in body plethysmography for calculating lung volumes?

- A. A sphygmomanometer**
- B. A spirometer**
- C. A pressure gauge**
- D. A box containing the patient**

Body plethysmography is a technique used to measure lung volumes and airway resistance by assessing changes in pressure and volume within a closed system. The instrument used in this technique is essentially a sealed chamber, or box, that the patient enters. By measuring the changes in pressure inside this box as the patient breathes, it allows for precise calculations of different lung volumes, including total lung capacity and functional residual capacity. The box creates a controlled environment where the patient's respiratory movements can be accurately measured, enabling healthcare professionals to evaluate lung function effectively. This method is particularly useful because it accounts for air that may not be expelled during regular spirometry, providing a comprehensive assessment of lung health. Other instruments listed, such as the spirometer, are primarily used for measuring airflow and volumes during respiratory maneuvers but do not capture the complete range of lung volume dimensions the box does during body plethysmography.

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://speechscience2.examzify.com>

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

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