

AP Psychology - Biological Bases of Behavior 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

- 1. What neurotransmitter is crucial for learning and memory and also facilitates muscle contraction?**
 - A. Acetylcholine**
 - B. Glutamate**
 - C. Substance P**
 - D. Endorphins**
- 2. What type of neurons communicate within the brain and spinal cord and between sensory and motor neurons?**
 - A. Motor neurons**
 - B. Interneurons**
 - C. Sensory neurons**
 - D. Autonomic neurons**
- 3. What is the process by which sensory receptors and the nervous system receive stimuli from the environment?**
 - A. Perception**
 - B. Sensation**
 - C. Transduction**
 - D. Integration**
- 4. What does a CT scan create from a series of x-ray photographs?**
 - A. A visual representation of brain activity**
 - B. A composite representation of a body's slice**
 - C. Magnetic field images of soft tissue**
 - D. Waves of brain activity**
- 5. What is defined as the amount of energy in a light or sound wave, perceived as brightness or loudness?**
 - A. Frequency**
 - B. Intensity**
 - C. Amplitude**
 - D. Color**

- 6. Which processing involves handling multiple aspects of a problem at the same time?**
- A. Parallel processing**
 - B. Sequential processing**
 - C. Spatial processing**
 - D. Auditory processing**
- 7. Which part of the eye is responsible for providing the eye's protective outer layer?**
- A. Pupil**
 - B. Iris**
 - C. Cornea**
 - D. Retina**
- 8. Which part of the autonomic nervous system prepares the body for action in challenging or threatening situations?**
- A. Sympathetic nervous system**
 - B. Parasympathetic nervous system**
 - C. Central nervous system**
 - D. Somatic nervous system**
- 9. Which type of vision does the fovea primarily support due to its concentration of cones?**
- A. Peripheral vision**
 - B. Monochromatic vision**
 - C. Color vision**
 - D. Low-light vision**
- 10. What is the term for the sensation of taste?**
- A. Gustation**
 - B. Olfaction**
 - C. Kinesthesia**
 - D. Vestibular sense**

Answers

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

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Explanations

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1. What neurotransmitter is crucial for learning and memory and also facilitates muscle contraction?

A. Acetylcholine

B. Glutamate

C. Substance P

D. Endorphins

Acetylcholine plays a vital role in both learning and memory as well as facilitating muscle contraction. In the brain, acetylcholine is essential for encoding new information and is involved in attention and arousal processes, making it a key player in cognitive functions. Its influence in the hippocampus, a region associated with memory formation, underscores its importance in learning. Moreover, acetylcholine is also critical in the peripheral nervous system, where it is the neurotransmitter responsible for transmitting signals from motor neurons to skeletal muscles. This enables voluntary muscle contraction, allowing for movement and coordination. This dual role in both the central and peripheral nervous systems highlights how acetylcholine is integral not only for cognitive functions but also for physical actions. Glutamate primarily acts as the main excitatory neurotransmitter involved in synaptic plasticity and is crucial for long-term potentiation, a mechanism associated with learning and memory. However, it does not facilitate muscle contraction. Substance P is mainly involved in pain perception, and endorphins act as natural painkillers and mood enhancers; they do not play a significant role in the processes of learning, memory, or muscle contraction in the same way that acetylcholine does.

2. What type of neurons communicate within the brain and spinal cord and between sensory and motor neurons?

A. Motor neurons

B. Interneurons

C. Sensory neurons

D. Autonomic neurons

Interneurons play a crucial role in the communication network of the nervous system by serving as connectors between sensory neurons, which transmit information from sensory receptors to the central nervous system, and motor neurons, which carry commands from the central nervous system to muscles and glands. They are primarily located in the brain and spinal cord and are responsible for processing information, integrating sensory input, and executing motor output. This makes them essential for reflexes and higher-level brain functions such as thinking and decision-making. Their ability to facilitate communication within the central nervous system helps in coordinating responses to stimuli, contributing to the overall functioning of the nervous system.

3. What is the process by which sensory receptors and the nervous system receive stimuli from the environment?

A. Perception

B. Sensation

C. Transduction

D. Integration

The process referred to in the question is sensation. Sensation involves the detection of physical energy (stimuli) from the environment by sensory receptors, such as those in the eyes, ears, skin, and other sensory organs. These receptors convert the physical signals into neural signals, which are then transmitted to the brain for further processing. To elaborate, sensation is distinct from perception. While sensation involves the initial gathering and transmission of sensory information, perception is the subsequent interpretation or understanding of this sensory information in the context of our experiences and the environment. Transduction, while related, specifically refers to the conversion of stimuli into neural impulses, which is a component of the sensation process but does not encompass the entire reception of stimuli. Integration pertains to how the brain combines sensory information to form a complete picture but does not describe the initial reception of sensory inputs. Therefore, the best answer that captures the entire process of receiving stimuli from the environment is sensation.

4. What does a CT scan create from a series of x-ray photographs?

A. A visual representation of brain activity

B. A composite representation of a body's slice

C. Magnetic field images of soft tissue

D. Waves of brain activity

A CT scan, or computed tomography scan, utilizes a series of X-ray photographs taken from different angles around a specific area of the body. These images are then processed to create a composite representation, effectively giving a cross-sectional view or "slice" of the body. This method allows for a more detailed examination of structures compared to standard X-ray images, providing crucial information for diagnosing various medical conditions. The reasoning behind choosing this option emphasizes the function of CT scans in offering a comprehensive view of anatomical structures by layering multiple images. Other options refer to different imaging techniques or modalities, such as functional imaging (which would assess brain activity), magnetic resonance imaging (which uses a magnetic field to produce images of soft tissues), or even concepts related to brain wave activity, none of which correctly describe the outcome of a CT scan.

5. What is defined as the amount of energy in a light or sound wave, perceived as brightness or loudness?

- A. Frequency**
- B. Intensity**
- C. Amplitude**
- D. Color**

The correct choice relates to the concept of intensity, which is the amount of energy carried by a light or sound wave. In optics and acoustics, intensity is directly associated with how we perceive the brightness of light or the loudness of sound. For instance, brighter lights have higher intensity, and louder sounds correspond to greater intensity levels. Amplitude, while also related, refers specifically to the maximum extent of a wave's oscillation and is a critical factor in determining intensity. However, intensity captures the overall perception of brightness or loudness more comprehensively, as it encompasses the energy conveyed by those amplitude variations. Frequency, on the other hand, relates to the pitch of a sound or the color of light, rather than its energy level. Color pertains to visual perception, specifically which wavelengths of light are reflected or emitted, but not to how bright the light appears. Thus, intensity stands out as the most fitting definition in relation to perceived energy levels in waves.

6. Which processing involves handling multiple aspects of a problem at the same time?

- A. Parallel processing**
- B. Sequential processing**
- C. Spatial processing**
- D. Auditory processing**

Parallel processing is the correct choice because it refers to the cognitive ability to analyze and process multiple aspects of a problem simultaneously. This type of processing is essential in various tasks, such as visual perception, where the brain integrates information regarding color, shape, and motion at once rather than in a step-by-step manner. In contrast, sequential processing involves tackling tasks or problems in a linear order, one step at a time, which can be less efficient when dealing with complex information requiring the integration of different elements. Spatial processing pertains specifically to understanding and manipulating spatial relationships, while auditory processing relates to processing sounds and speech. Thus, none of these options encompass the breadth of simultaneously handling multifaceted problems like parallel processing does.

7. Which part of the eye is responsible for providing the eye's protective outer layer?

- A. Pupil**
- B. Iris**
- C. Cornea**
- D. Retina**

The cornea is the part of the eye that serves as its protective outer layer. It is a transparent, dome-shaped structure that covers the front of the eye and plays a crucial role in focusing light onto the retina, which is essential for clear vision. The cornea not only shields the inner structures of the eye from dust, debris, and harmful microorganisms, but it also helps to filter out some harmful UV light from the sun. The pupil, iris, and retina are all important components of the eye, but they serve different functions. The pupil is the adjustable opening that controls the amount of light entering the eye, while the iris, the colored part of the eye, surrounds the pupil and regulates its size. The retina, located at the back of the eye, contains photoreceptor cells that convert light into neural signals, allowing us to perceive images.

8. Which part of the autonomic nervous system prepares the body for action in challenging or threatening situations?

- A. Sympathetic nervous system**
- B. Parasympathetic nervous system**
- C. Central nervous system**
- D. Somatic nervous system**

The sympathetic nervous system is the component of the autonomic nervous system responsible for preparing the body for action in response to challenging or threatening situations. This system is often referred to as the "fight or flight" system because it triggers a series of physiological changes that enhance the body's ability to respond to immediate threats. These changes include an increase in heart rate, dilation of the bronchi to allow for greater oxygen intake, release of adrenaline, and redirection of blood flow to the muscles, facilitating rapid movement or heightened awareness. The parasympathetic nervous system, in contrast, is involved in conserving energy and promoting 'rest and digest' functions when the body is in a calm state. It operates to counterbalance the effects of the sympathetic system and is not geared towards preparing the body for immediate action. The central nervous system, while critical in processing information and controlling bodily functions, encompasses the brain and spinal cord but does not directly prepare the body for action in response to stress. The somatic nervous system, which governs voluntary muscle movements and transmits sensory information to the central nervous system, plays a different role and is not directly involved in preparing the body for action in stressful situations. Thus, the sympathetic nervous system is the primary system that activates the body's

9. Which type of vision does the fovea primarily support due to its concentration of cones?

- A. Peripheral vision**
- B. Monochromatic vision**
- C. Color vision**
- D. Low-light vision**

The fovea is a specialized region of the retina that contains a high concentration of cones, which are the photoreceptor cells responsible for detecting color and fine detail. Because of this unique structure, the fovea is primarily involved in color vision. Cones are highly sensitive to different wavelengths of light, allowing them to respond to the three primary colors: red, green, and blue. This sensitivity is crucial for perceiving a wide range of colors and for tasks that require sharp vision, such as reading and recognizing faces. In contrast, peripheral vision is largely supported by rod cells, which are more sensitive to dim light and motion but do not provide color discrimination. Monochromatic vision, which involves perceiving only a single color or shades of gray, is not facilitated by the fovea, as it primarily operates through the cones that support color perception. Low-light vision relies on rod cells, which are more concentrated in the peripheral regions of the retina and enable vision in dim conditions rather than the bright, detailed vision supported by the fovea. Thus, the correct association is that the fovea supports color vision due to its abundance of cone cells.

10. What is the term for the sensation of taste?

- A. Gustation**
- B. Olfaction**
- C. Kinesthesia**
- D. Vestibular sense**

The sensation of taste is known as gustation. This term specifically refers to the process by which our taste buds on the tongue detect flavors such as sweet, salty, sour, bitter, and umami. Gustation is an essential part of our sensory experience, influencing not only how we perceive food but also our desire to eat and enjoy different flavors. Olfaction, on the other hand, pertains to the sense of smell, which is closely related but distinctly different from taste. Kinesthesia refers to the sense of the position and movement of our body parts, allowing us to sense where our limbs are in space without relying on vision. The vestibular sense relates to balance and spatial orientation, helping us maintain our balance and understand our body's position with respect to gravity. Understanding these distinctions helps to clarify why gustation is the correct term for the sensation of taste.

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://appsychbiobasesofbehavior.examzify.com>

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