Biological Bases of Behavior Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Table of Contents

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. Cannabis and LSD are examples of which drug class?

A. Depressants

B. Stimulants

C. Hallucinogens

D. Opioids

2. The body's 'slow' chemical communication system; a set of glands that secrete hormones into the bloodstream.

A. Endocrine system

B. Hormones

C. Aphasia

D. Endorphins

3. Substance P modulates pain signals in which part of the central nervous system?

A. Dorsal horn of the spinal cord

B. Cerebellum

C. Hypothalamus

D. Occipital cortex

4. Which cells in the nervous system support, nourish, and protect neurons?

A. Neurons

B. Neurotransmitters

C. Glial Cells (Glia)

D. Myelin

5. The front-most portion of the frontal lobes; involved in planning and reasoning; one of the last areas of the brain to mature.

A. Occipital lobe

B. Parietal lobe

C. Prefrontal cortex

D. Temporal lobe

6. What is the electrical charge of a neuron when it is not firing?

A. Action potential

B. Threshold

C. Refractory period

D. Resting potential

7. Which describes that the left hemisphere controls the right side of the body and the right hemisphere controls the left?

A. Ipsilateral Control

B. Nervous System

C. Contralateral Control

D. Hemispheric Specialization

8. Wernicke's area is typically located in which hemisphere and lobe?

A. Left Temporal Lobe

B. Left Frontal Lobe

C. Right Temporal Lobe

D. Right Frontal Lobe

9. Loss of the ability to speak or understand language is called?

A. Resting potential

B. Action potential

C. Threshold

D. Aphasia

10. Substance P is best described as which of the following?

A. A peptide hormone

B. A neurotransmitter and neuropeptide

C. A steroid

D. A gasotransmitter

Answers

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

Explanations

1. Cannabis and LSD are examples of which drug class?

A. Depressants

B. Stimulants

C. Hallucinogens

D. Opioids

The main idea is that drug classes are often organized by the kind of mental experience they most reliably produce. Hallucinogens yield perceptual distortions and changes in sensory experience, thoughts, and mood. LSD is the classic example of a hallucinogen, producing vivid visual and auditory distortions and alterations in thinking and time perception. Cannabis also commonly alters perception and sensory processing, which aligns with the hallucinogen category in many educational contexts. In contrast, depressants mainly slow brain activity and can cause drowsiness and slowed coordination; stimulants increase wakefulness and energy; opioids primarily reduce pain and can produce euphoria. While cannabis has a range of effects, its hallmark perceptual alterations fit the hallucinogen group, making that the best classification for both substances in this question.

2. The body's 'slow' chemical communication system; a set of glands that secrete hormones into the bloodstream.

A. Endocrine system

B. Hormones

C. Aphasia

D. Endorphins

The body's slow chemical communication system is the endocrine system. It's a network of glands—such as the pituitary, thyroid, adrenals, pancreas, and gonads—that release hormones into the bloodstream. Once in the blood, these hormones travel to distant target organs and tissues to regulate processes like metabolism, growth, mood, and reproduction. Because the signals travel through the bloodstream rather than along nerves, their effects tend to develop more slowly and last longer than fast, point-to-point neural signaling. Aphasia is a language impairment, not a signaling system. Endorphins are specific signaling chemicals that can act as hormones or neurotransmitters, but they're individual substances, not the entire system of glands and hormone pathways.

3. Substance P modulates pain signals in which part of the central nervous system?

A. Dorsal horn of the spinal cord

B. Cerebellum

C. Hypothalamus

D. Occipital cortex

Substance P is a neuropeptide released by nociceptive (pain-sensing) nerve fibers at the level where pain signals first enter the central nervous system. In the dorsal horn of the spinal cord, especially in the superficial laminae around the substantia gelatinosa, Substance P binds to receptors on second-order neurons and enhances the transmission of pain signals up the spinal cord toward the brain. This early modulation in the dorsal horn is a key step in how pain information is processed and can contribute to increased sensitivity to pain (central sensitization). The other regions—cerebellum, hypothalamus, and occipital cortex—are involved in other functions (movement coordination, autonomic/endocrine regulation, and visual processing, respectively) and are not the primary sites where Substance P modulates nociceptive signaling. Hence, the dorsal horn of the spinal cord is where Substance P modulates pain signals.

4. Which cells in the nervous system support, nourish, and protect neurons?

A. Neurons

B. Neurotransmitters

C. Glial Cells (Glia)

D. Myelin

Glial cells are the support system of the nervous system. They nourish neurons with energy substrates, manage the chemical environment around neurons (like ions and neurotransmitters), provide physical scaffolding, and participate in immune defense to protect neural tissue. Neurons themselves are the signaling units, responsible for transmitting electrical impulses and releasing neurotransmitters, but they depend on glia to stay healthy and to function properly. Different glial types work together: astrocytes supply glucose and help regulate extracellular ion balance; microglia act as immune cells; oligodendrocytes (in the CNS) and Schwann cells (in the PNS) create myelin to insulate axons and speed transmission. Myelin is a product of these glial cells, not a separate cell, and neurotransmitters are the chemical messages released by neurons. So the cells that actively support, nourish, and protect neurons are glial cells.

5. The front-most portion of the frontal lobes; involved in planning and reasoning; one of the last areas of the brain to mature.

A. Occipital lobe

B. Parietal lobe

C. Prefrontal cortex

D. Temporal lobe

The front-most portion of the frontal lobes is the prefrontal cortex. This region governs executive functions—planning, reasoning, decision-making, working memory, and impulse control. It matures more slowly than other brain areas, with development continuing into early adulthood, which helps explain why complex planning and abstract reasoning improve across adolescence into the twenties. The prefrontal cortex integrates information from various brain regions to set goals, strategize, weigh consequences, and regulate behavior. In contrast, the occipital lobe handles vision, the parietal lobe processes sensory input and spatial relationships, and the temporal lobe deals with hearing, language, and memory.

6. What is the electrical charge of a neuron when it is not firing?

A. Action potential

B. Threshold

C. Refractory period

D. Resting potential

When a neuron isn't firing, its membrane potential sits at a resting level, usually about -70 millivolts, meaning the inside of the cell is negatively charged compared with the outside. This negative interior comes from ion gradients: there's more potassium inside and more sodium outside, plus negatively charged proteins inside. The membrane is more permeable to potassium at rest, so potassium ions tend to leak out, pushing the inside further negative. The sodium–potassium pump also helps by actively moving three sodium ions out and two potassium ions in, maintaining these gradients over time. Because of this arrangement, the neuron is in a ready, polarized state and must be depolarized toward a threshold to trigger an action potential. The other terms describe what happens during or after firing: an action potential is the rapid voltage spike during signaling, the threshold is the level that must be reached to start firing, and the refractory period is the brief recovery time after firing when it's harder to fire again.

7. Which describes that the left hemisphere controls the right side of the body and the right hemisphere controls the left?

A. Ipsilateral Control

B. Nervous System

C. Contralateral Control

D. Hemispheric Specialization

The concept here is contralateral control: each hemisphere of the brain largely controls the opposite side of the body. This happens because the main motor and sensory pathways cross over to the other side as they descend from the brain or ascend to it. For movement, the primary motor cortex sends commands down the corticospinal tract, and these fibers cross at the medullary pyramids, so the left hemisphere ends up steering the right side and the right hemisphere the left. This crossing explains why a lesion in the left hemisphere can produce weakness or paralysis on the right side, and vice versa. The other options don't capture this cross-hemisphere wiring: ipsilateral control would mean same-side control, which isn't how these pathways are organized; the nervous system is too broad a label for this specific pattern; hemispheric specialization refers to different functions being dominant in each hemisphere, not to which side of the body they control.

8. Wernicke's area is typically located in which hemisphere and lobe?

A. Left Temporal Lobe

B. Left Frontal Lobe

C. Right Temporal Lobe

D. Right Frontal Lobe

Wernicke's area is the language comprehension center, and it sits in the left temporal lobe—specifically the posterior part of the superior temporal gyrus—in the hemisphere that for most people is language-dominant. This region processes spoken language and helps map sounds onto meaning. Damage here leads to fluent speech that can be nonsensical and to poor comprehension, known as Wernicke's aphasia. It's often contrasted with Broca's area, which is in the left frontal lobe and involved in speech production. The right temporal and right frontal lobes are not the typical locations for Wernicke's area.

9. Loss of the ability to speak or understand language is called?

A. Resting potential

B. Action potential

C. Threshold

D. Aphasia

Aphasia is the loss of the ability to speak or understand language, typically from damage to language areas in the left hemisphere (Broca's area for speech production and Wernicke's area for comprehension). Depending on which area is affected, speech may be nonfluent with good comprehension or fluent with poor comprehension. The other terms describe neural signaling—resting potential, action potential, and threshold—not language processing.

10. Substance P is best described as which of the following?

A. A peptide hormone

B. A neurotransmitter and neuropeptide

C. A steroid

D. A gasotransmitter

Substance P is best described as a neurotransmitter and neuropeptide. It is an 11-amino-acid peptide produced in neurons, stored in synaptic vesicles, and released at synapses to enhance pain signaling and inflammation. It acts on receptors such as neurokinin-1 (NK1) on postsynaptic neurons and other cells, modulating nociceptive transmission and vascular responses. It's not a steroid, which are lipid-soluble hormones derived from cholesterol, and it's not a gasotransmitter like nitric oxide. While peptides can act as hormones, substance P primarily serves as a local signaling molecule in the nervous system rather than an endocrine signal, fitting the role of a neurotransmitter and neuropeptide.

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://biologicalbasesofbehavior.examzify.com

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