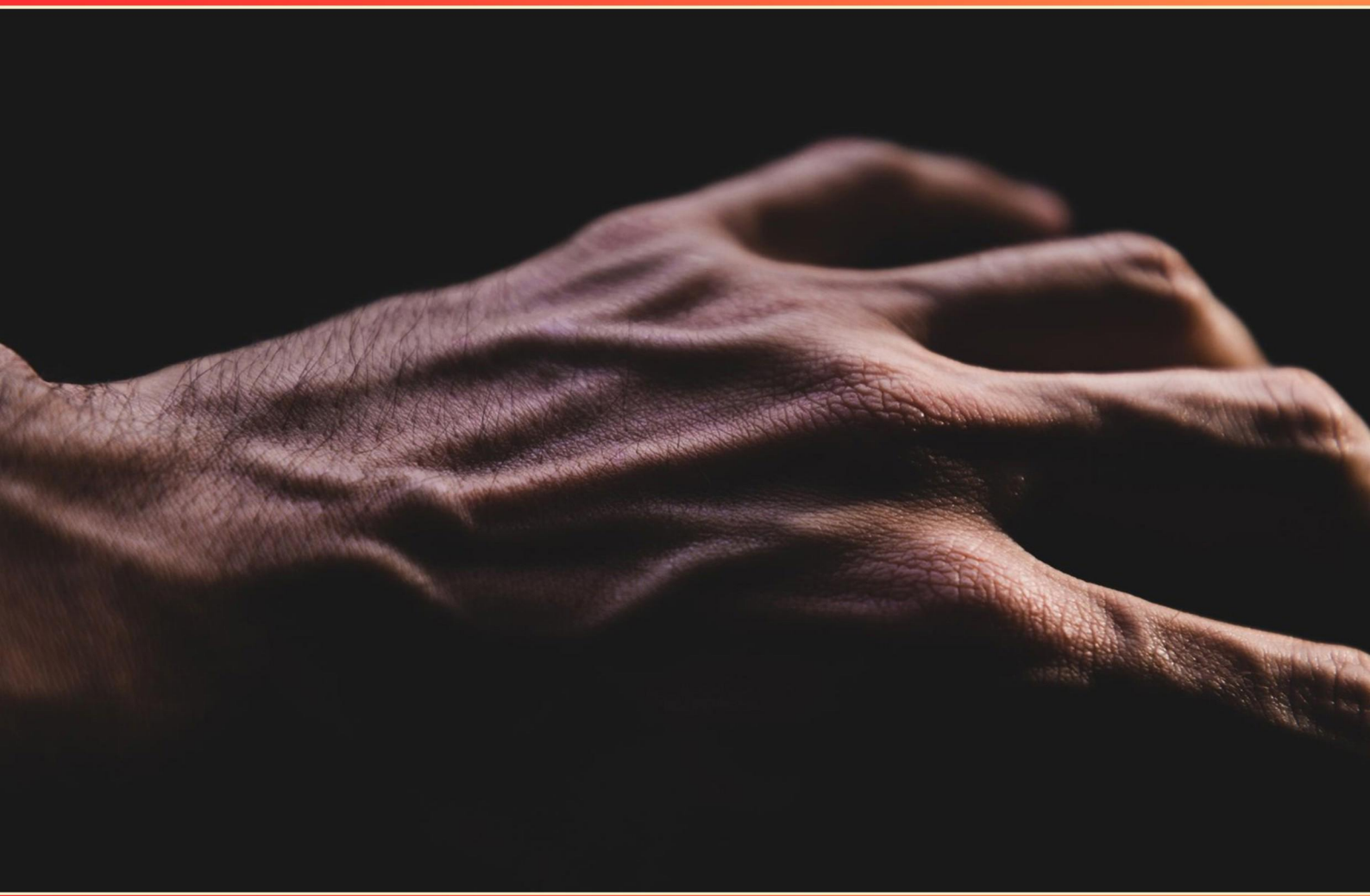
UNIVERSITY OF CENTRAL FLORIDA (UCF) PCB3703C HUMAN PHYSIOLOGY LAB PRACTICE EXAM 2 (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

https://ucf-pcb3703c-labexam2.examzify.com

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright 1

Table of Contents 2

Introduction 3

How to Use This Guide 4

Questions 5

Answers 8

Explanations 10

Next Steps 15

SAMPLE

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.

SAMPLE

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!

SAMPLE

Questions

SAMPLE

1. Which of the following is NOT a function of the skeletal system?

A. Storing minerals
B. Producing blood cells
C. Regulating body temperature
D. Protecting organs

2. Why are villi important in the small intestine?

A. They secrete digestive enzymes
B. They enhance blood flow
C. They increase surface area for nutrient absorption
D. They protect against pathogens

3. How does the body react to increased acidity in the blood?

A. By decreasing breathing rate
B. By increasing heartbeat
C. By using respiratory and renal compensation
D. By storing excess acid in the liver

4. Which heart chamber has the thickest wall?

A. Right atrium
B. Right ventricle
C. Left atrium
D. Left ventricle

5. What is the primary function of alveoli in the lungs?

A. Facilitate nutrient absorption
B. Facilitate gas exchange
C. Maintain lung elasticity
D. Regulate blood pH

6. What is the function of the glomerulus in the kidneys?

A. It regulates blood pressure by constricting blood vessels
B. It produces urine through filtration of blood
C. It helps in the reabsorption of nutrients
D. It assists in the secretion of hormones

SAMPLE

7. Blood can be classified into two main components; what percentage is made up of plasma?

A. 45%

B. 55%

C. 70%

D. 60%

8. What type of immunity do T cells primarily mediate?

A. Innate immunity

B. Adaptive immunity

C. Passive immunity

D. Cell-mediated immunity

9. Before entering the right ventricle, blood must pass through which valve?

A. Aortic valve

B. Pulmonary valve

C. Tricuspid valve

D. Bicuspid valve

10. Which component is essential for the conduction of electrical impulses in neurons?

A. Synaptic vesicles

B. Myelin sheath

C. Cytoplasm

D. Nucleus

SAMPLE

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. Which of the following is NOT a function of the skeletal system?

A. Storing minerals

B. Producing blood cells

C. Regulating body temperature

D. Protecting organs

The skeletal system has several critical functions, including storing minerals, producing blood cells, and protecting vital organs. Storing minerals involves the bones acting as a reservoir for essential elements such as calcium and phosphorus, which are crucial for various physiological processes. Producing blood cells primarily occurs in the bone marrow found within certain bones, a process known as hematopoiesis. Additionally, the skeletal system provides structural support and protection for organs, safeguarding delicate tissues and systems. Regulating body temperature, however, is not a function of the skeletal system. Body temperature regulation is primarily managed by the integumentary system (skin, hair, sweat glands) and the nervous system, which respond to changes in the environment and maintain homeostasis through mechanisms like sweating and altering blood flow to the skin. Thus, identifying body temperature regulation as not belonging to the functions of the skeletal system is accurate.

2. Why are villi important in the small intestine?

A. They secrete digestive enzymes

B. They enhance blood flow

C. They increase surface area for nutrient absorption

D. They protect against pathogens

Villi are small, finger-like projections that line the inner surface of the small intestine, and their primary function is to increase the surface area available for nutrient absorption. The small intestine is where most of the digestion and absorption of nutrients occurs, and having a larger surface area allows for a more efficient and effective absorption process. By increasing the surface area, the villi ensure that more nutrients can be absorbed into the bloodstream. This is crucial for the body to obtain the necessary nutrients it needs from food, such as vitamins, minerals, carbohydrates, proteins, and fats. The structure of the villi, along with microvilli (even smaller projections on the villi), creates a vast surface area that significantly enhances the intestine's capacity to absorb nutrients, making this adaptation vital for proper digestive function. Other options, while having their own roles in digestion and immunity, do not directly relate to the primary function of villi in nutrient absorption. Therefore, the emphasis on increased surface area is key to understanding the role of villi in the small intestine.

3. How does the body react to increased acidity in the blood?

A. By decreasing breathing rate

B. By increasing heartbeat

C. By using respiratory and renal compensation

D. By storing excess acid in the liver

The body reacts to increased acidity in the blood, or acidosis, primarily through respiratory and renal compensation. When blood becomes more acidic, the respiratory system responds by increasing the rate and depth of breathing. This process enhances the elimination of carbon dioxide (CO_2), which decreases the concentration of carbonic acid in the blood, thereby helping to neutralize the acidity. Additionally, the kidneys play a crucial role by excreting excess hydrogen ions (H^+) and reabsorbing bicarbonate (HCO_3^-), which acts as a buffer to maintain pH balance. By utilizing both the respiratory and renal systems, the body effectively regulates pH levels and mitigates the effects of increased acidity. This integrated response highlights the importance of homeostasis in maintaining optimal physiological conditions.

SAMPLE

4. Which heart chamber has the thickest wall?

A. Right atrium

B. Right ventricle

C. Left atrium

D. Left ventricle

The left ventricle has the thickest wall of all heart chambers because it is responsible for pumping oxygenated blood to the entire body. This requires generating more force than the other chambers, particularly since it must overcome the greater resistance in the systemic circulation compared to the pulmonary circulation. The thick muscular walls enable the left ventricle to contract more powerfully, ensuring that blood is efficiently delivered to organs and tissues far from the heart. In contrast, the other chambers do not need to exert as much force. For example, the right ventricle pumps blood to the lungs, which is a shorter distance and requires less muscular force. Similarly, the atria, including the right and left atria, are primarily involved in receiving blood and pushing it into the ventricles and do not require the same degree of muscular thickness as the ventricles that perform the heavy work of pumping blood throughout the body.

5. What is the primary function of alveoli in the lungs?

A. Facilitate nutrient absorption

B. Facilitate gas exchange

C. Maintain lung elasticity

D. Regulate blood pH

The primary function of alveoli in the lungs is to facilitate gas exchange. Alveoli are tiny, balloon-like structures at the end of the respiratory bronchioles, and they play a crucial role in the respiratory system. Their walls are extremely thin and are surrounded by a network of capillaries, which allows for efficient diffusion of gases. During respiration, oxygen from the air within the alveoli diffuses across the alveolar walls and into the capillaries, where it binds to hemoglobin in red blood cells. Conversely, carbon dioxide, which is a waste product of cellular metabolism, diffuses from the blood into the alveoli to be exhaled. This exchange of gases is vital for maintaining the body's oxygen supply and removing carbon dioxide, a process essential for cellular respiration and overall metabolic function. The structure of the alveoli, including their large surface area and moisture-lined surface, maximizes the efficiency of this gas exchange process, making them uniquely suited for their primary function in the lungs.

6. What is the function of the glomerulus in the kidneys?

A. It regulates blood pressure by constricting blood vessels

B. It produces urine through filtration of blood

C. It helps in the reabsorption of nutrients

D. It assists in the secretion of hormones

The glomerulus serves a critical role in the kidneys by filtering blood to form urine. As a network of tiny capillaries located at the beginning of the nephron, the glomerulus allows for the passage of water, electrolytes, and small molecules from the blood into the Bowman's capsule, a part of the nephron. This process is known as glomerular filtration and is essential for the formation of urine. In this filtering process, larger molecules such as proteins and blood cells are generally retained in the bloodstream due to their size, while waste products and excess substances are filtered out. This initial filtration is crucial for maintaining the body's homeostasis, as it allows for the excretion of waste while preserving necessary nutrients in circulation. While other structures in the nephron are concerned with reabsorption and secretion, the specific function of the glomerulus is distinctly centered on the filtration of blood. Thus, the primary function of the glomerulus is accurately described by the correct answer.

SAMPLE

7. Blood can be classified into two main components; what percentage is made up of plasma?

A. 45%

B. 55%

C. 70%

D. 60%

Blood is composed of two primary components: plasma and formed elements, which include red blood cells, white blood cells, and platelets. Plasma constitutes the liquid portion of the blood and plays a critical role in maintaining blood volume and pressure, transporting nutrients, waste products, hormones, and proteins throughout the body. The correct percentage of blood that is plasma is approximately 55%. This composition reflects a typical hematocrit value, which measures the proportion of blood volume occupied by the formed elements. Understanding this percentage is essential for recognizing how blood functions and ensures that practitioners can evaluate various physiological conditions. While the other options present percentages that could represent blood volume, they do not accurately reflect the standard composition of blood where plasma constitutes about 55%. This knowledge is fundamental for anyone studying human physiology, as alterations in these proportions can indicate various medical conditions or physiological responses.

8. What type of immunity do T cells primarily mediate?

A. Innate immunity

B. Adaptive immunity

C. Passive immunity

D. Cell-mediated immunity

T cells primarily mediate cell-mediated immunity, which is a crucial component of the adaptive immune system. This type of immunity involves the activation of T cells in response to specific antigens presented by infected or abnormal cells. Unlike antibody-mediated immunity, which is primarily associated with B cells, cell-mediated immunity focuses on directly attacking infected or cancerous cells. T cells can differentiate into several subtypes, such as cytotoxic T cells that kill infected cells and helper T cells that activate other immune cells. This targeted response allows the immune system to effectively eliminate pathogens that reside within cells, showcasing the importance of T cells in maintaining the body's defense mechanisms. In this context, cell-mediated immunity highlights the specificity and adaptability of the immune response, enhancing the body's ability to recognize and fight off specific threats, which is a hallmark of the adaptive immune system.

SAMPLE

9. Before entering the right ventricle, blood must pass through which valve?

A. Aortic valve

B. Pulmonary valve

C. Tricuspid valve

D. Bicuspid valve

Blood must pass through the tricuspid valve before entering the right ventricle because this valve serves as a crucial gateway between the right atrium and the right ventricle of the heart. The main function of the tricuspid valve is to prevent the backflow of blood into the right atrium when the right ventricle contracts. As blood returns from the body through the superior and inferior vena cavae, it fills the right atrium. When the right atrium contracts, blood flows through the tricuspid valve into the right ventricle, allowing for efficient circulation to the lungs for oxygenation. The other valves mentioned serve different roles in the circulatory system. The aortic valve is located at the exit of the left ventricle and controls blood flow into the aorta. The pulmonary valve is situated at the exit of the right ventricle, regulating blood flow into the pulmonary artery. The bicuspid valve (or mitral valve) controls blood flow from the left atrium to the left ventricle. Each valve plays a specific role in ensuring the proper direction and flow of blood throughout the heart and the entire circulatory system, but the tricuspid valve is the one that directly governs blood flow into

10. Which component is essential for the conduction of electrical impulses in neurons?

A. Synaptic vesicles

B. Myelin sheath

C. Cytoplasm

D. Nucleus

The myelin sheath is crucial for the conduction of electrical impulses in neurons because it acts as an insulating layer surrounding the axons of many neurons. This insulation increases the speed at which impulses, or action potentials, travel along the axon. When a neuron sends a signal, the action potential jumps between the nodes of Ranvier—small gaps in the myelin sheath—through a process called saltatory conduction. This mechanism allows for quicker communication compared to unmyelinated fibers, where the action potential must traverse the entire length of the axon continuously. Additionally, the presence of the myelin sheath reduces the loss of electrical charge along the axon, further enhancing efficient signal transmission.

SAMPLE

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://ucf-pcb3703c-labexam2.examzify.com

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

SAMPLE