IB SPORTS, EXERCISE AND HEALTH SCIENCE (SEHS) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

https://ibsehs.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 organelle is the site of protein synthesis?

A. Ribosome

B. Endoplasmic reticulum

C. Nucleus

D. Lysosome

2. Which metabolic pathway is responsible for breaking down glucose to pyruvate to provide energy?

A. Glycolysis

B. Glycogenesis

C. Glycogenolysis

D. Lipolysis

3. Which statement describes motor programmes in relation to open and closed-loop perspectives?

A. Motor program is structured the same way as open loop but its commands are changed by the need to correct errors.

B. Motor programs cannot be altered during execution.

C. Motor programs are only used in closed loop.

D. Motor programs replace perception.

4. During exercise, what percentage of blood is directed to active muscles?

A. 20%

B. 50%

C. 90%

D. 100%

5. Angular momentum is the product of which quantities?

A. Mass times velocity

B. Displacement times force

C. Angular momentum is the product of the moment of inertia and angular velocity

D. Radius times density

SAMPLE

6. What is the standard formula for estimating maximum heart rate in most individuals?

A. 220 - age

B. 220 + age

C. 200 - age

D. 210 - age

7. Which type of feedback is based on the outcome of the action, such as time or distance?

A. Knowledge of performance

B. Time and distance outcomes

C. Concurrent

D. Knowledge of results

8. Which statement correctly differentiates Type IIa and Type IIb motor units?

A. Type IIa are fast-twitch oxidative and fatigue resistant; Type IIb fastest contraction, not fatigue resistant.

B. Type IIa slow-twitch; Type IIb slow-twitch

C. Type IIa rely on anaerobic glycolysis with rapid fatigue; Type IIb rely on oxidative

D. Type IIa are slow-oxidative; Type IIb are slow-glycolytic

9. Which activity primarily uses large muscle groups?

A. Swimming

B. Piano

C. Darts

D. Typing

10. Which is NOT a recommended strategy to prevent DOMS?

A. Starting training at a high intensity

B. Reducing the eccentric component of actions during early training

C. Warming up

D. Cooling down

SAMPLE

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. Which organelle is the site of protein synthesis?

A. Ribosome

B. Endoplasmic reticulum

C. Nucleus

D. Lysosome

Protein synthesis happens at ribosomes, the cellular machines that translate the genetic code into a polypeptide. Ribosomes read mRNA sequences and link together appropriate amino acids carried by tRNA to form the growing protein. They can float freely in the cytosol or be attached to the rough endoplasmic reticulum, where proteins destined for secretion or membranes are synthesized and then processed. The nucleus houses DNA and is where transcription occurs, not where translation happens. Lysosomes are involved in breaking down macromolecules, not making proteins. So, the site of protein synthesis is the ribosome.

2. Which metabolic pathway is responsible for breaking down glucose to pyruvate to provide energy?

A. Glycolysis

B. Glycogenesis

C. Glycogenolysis

D. Lipolysis

Glycolysis breaks down glucose into two pyruvate molecules to release energy in the form of ATP. This process occurs in the cytosol and can operate without oxygen, making it a crucial quick source of ATP during intense exercise; if oxygen is present, the pyruvate can move into the mitochondria for further energy production via the TCA cycle. Net gain from glycolysis is 2 ATP per glucose (along with 2 NADH), which is why it's the primary pathway that provides energy directly from glucose. The other options involve storing glucose as glycogen (glycogenesis), breaking down stored glycogen to glucose (glycogenolysis), or breaking down fats (lipolysis), none of which convert glucose to pyruvate for immediate energy.

3. Which statement describes motor programmes in relation to open and closed-loop perspectives?

A. Motor program is structured the same way as open loop but its commands are changed by the need to correct errors.

B. Motor programs cannot be altered during execution.

C. Motor programs are only used in closed loop.

D. Motor programs replace perception.

When we think about motor programmes, they are preplanned sequences of motor commands that allow a rapid, well-timed action to be produced with minimal ongoing conscious control after initiation. That mirrors the open-loop idea, where once the program starts, the movement unfolds largely without relying on real-time feedback. But the programme framework isn't rigid; when sensory feedback indicates an error, the commands within the programme can be adjusted to correct the movement. This combination—a prestructured plan that can be modulated by feedback to fix errors—best describes how motor programmes relate to open and closed-loop perspectives. The other statements don't fit: motor programmes aren't fixed and unchangeable during execution, they aren't used only in closed-loop, and they don't replace perception.

SAMPLE

4. During exercise, what percentage of blood is directed to active muscles?

A. 20%

B. 50%

C. 90%

D. 100%

Blood flow during exercise is massively redirected to active muscles to satisfy their higher energy needs. This happens because the body reduces blood flow to nonessential areas via sympathetic vasoconstriction while active muscles dilate their vessels in response to metabolites from increased activity. The result is a large portion of the heart's output goes to the working muscles. At high-intensity exercise, skeletal muscles can receive around 85–90% of cardiac output, far more than at rest, though not 100% since organs like the brain and heart still require perfusion. This substantial shift explains why the percentage directing blood to active muscles is so high during vigorous activity.

5. Angular momentum is the product of which quantities?

A. Mass times velocity

B. Displacement times force

C. Angular momentum is the product of the moment of inertia and angular velocity

D. Radius times density

Angular momentum describes rotational motion, and for an object spinning about an axis it equals the product of how mass is distributed relative to that axis and how fast the rotation is (the angular velocity). In symbols, $L = I\omega$. The moment of inertia I depends on mass and its distance from the axis—the more mass farther from the axis, the larger I becomes, so the same spin speed yields a larger angular momentum. The angular velocity ω tells you how quickly the rotation occurs, so increasing ω increases L as well. For a single particle moving in a circle, this idea still holds: $L = m r^2 \omega$, which matches $L = I\omega$ if you treat the particle's I as $m r^2$. This comes from the relationship $L = r \times p$, and with $p = m v$ and $v = \omega r$ (perpendicular to r), you get $|L| = m r v = m r^2 \omega$. So angular momentum is not mass times velocity (that's linear momentum), nor a product of displacement and force, nor a simple radius times density. It's the rotational counterpart where distribution of mass and rotation rate determine the amount of angular momentum.

6. What is the standard formula for estimating maximum heart rate in most individuals?

A. 220 - age

B. 220 + age

C. 200 - age

D. 210 - age

Maximum heart rate is the highest heart rate a person can reach during intense exercise, and it tends to decline with age due to changes in the heart's responsiveness. The most common quick estimate for most individuals is to subtract age in years from 220. This simple formula provides a practical baseline for setting training zones and monitoring effort without specialized testing. For example, a 30-year-old would be estimated to have about 190 bpm as the maximum. While actual HRmax varies among individuals, this rule of thumb is widely used because it is easy to apply and aligns with large population data. The other options either imply the heart rate increases with age or use different constants, which are less standard for a general estimate.

SAMPLE

7. Which type of feedback is based on the outcome of the action, such as time or distance?

A. Knowledge of performance

B. Time and distance outcomes

C. Concurrent

D. Knowledge of results

The main idea is feedback that tells you the result of an action. Knowledge of results focuses on the outcome of a movement—what you achieved, such as the time you finished a run or the distance you covered. This type of feedback lets you judge success and set goals for the next attempt, without judging how you moved your body to get there. For example, after a throw you're told the distance reached or the time taken to complete it. That's KR, the outcome information. In contrast, knowledge of performance would critique how you threw—your technique, form, or sequencing—regardless of the distance. Concurrent feedback is given during the action, not after, and isn't specifically about the end result. While time or distance are outcome measures, the standard term for feedback about those outcomes is knowledge of results.

8. Which statement correctly differentiates Type IIa and Type IIb motor units?

A. Type IIa are fast-twitch oxidative and fatigue resistant; Type IIb fastest contraction, not fatigue resistant.

B. Type IIa slow-twitch; Type IIb slow-twitch

C. Type IIa rely on anaerobic glycolysis with rapid fatigue; Type IIb rely on oxidative

D. Type IIa are slow-oxidative; Type IIb are slow-glycolytic

Understanding how muscle fibers differ in speed and energy use helps explain these two motor unit types. Fast-twitch units vary in how they generate energy: some lean more on oxidative metabolism (using mitochondria and oxygen) while others rely mainly on glycolysis (without relying on oxygen). This shapes both how quickly they contract and how long they can sustain activity. Type IIa fibers are fast-twitch but possess both oxidative and glycolytic capabilities. They're often called fast oxidative glycolytic because they can generate force quickly and sustain it longer than pure glycolytic fibers, thanks to greater mitochondrial content, capillary supply, and myoglobin. This gives them relatively good fatigue resistance compared with the most glycolytic fibers. Type IIb fibers, on the other hand, are fast-twitch glycolytic. They produce the fastest contractions due to high myosin ATPase activity and a high capacity for rapid cross-bridge cycling, but they rely mainly on anaerobic glycolysis and have limited oxidative capacity, so they fatigue quickly. So the statement aligns with what we know: Type IIa are fast-twitch oxidative and fatigue resistant; Type IIb are the fastest contracting and not fatigue resistant.

SAMPLE

9. Which activity primarily uses large muscle groups?

A. Swimming

B. Piano

C. Darts

D. Typing

Large-muscle activities recruit the body's major muscle groups across the legs, hips, back, and chest to generate whole-body movement. In swimming, propulsion comes from powerful, coordinated movements of the legs for kicking, the core and hips for stability and transfer, and the arms pulling through the water. This combination engages large muscle groups throughout the body and creates a high aerobic demand. In contrast, the other activities mainly involve fine motor control of small muscles in the hands and fingers, with less involvement of the large muscle groups. Playing the piano requires precision from the fingers; typing uses finger and forearm movements; and darts relies on accuracy and control of the hand and forearm. So, swimming primarily uses large muscle groups.

10. Which is NOT a recommended strategy to prevent DOMS?

A. Starting training at a high intensity

B. Reducing the eccentric component of actions during early training

C. Warming up

D. Cooling down

To prevent DOMS, the emphasis is on how you load and prepare your muscles. DOMS comes from microscopic damage to muscle fibers, especially from eccentric (lengthening) actions. Jumping straight into high-intensity work causes more initial muscle damage, so starting at a high intensity is not recommended. Instead, gradually increasing the training load and, if possible, dialing back the eccentric demands in early sessions helps reduce the initial damage. Warming up prepares the muscles and connective tissues for work, which can lessen stiffness and soreness afterward. Cooling down after exercise aids recovery by promoting circulation and metabolite clearance, though its effect on DOMS can vary. So the one that isn't advised for preventing DOMS is starting training at a high intensity.

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://ibsehs.examzify.com

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

SAMPLE