

TASC SPORT SCIENCE 3 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. What does an increased arteriovenous oxygen difference indicate about tissue oxygen extraction?**
 - A. No significance
 - B. Decreased extraction
 - C. Lower delivery
 - D. Greater extraction

- 2. What does a higher a-VO₂ diff mean?**
 - A. It indicates lower oxygen extraction by muscles.
 - B. It indicates higher heart rate only.
 - C. It means the muscle is using more oxygen and more oxygen is diffused into the blood at the lungs.
 - D. It means more carbon dioxide is produced.

- 3. From which point into exercise can the aerobic system become the predominant energy source?**
 - A. 0 seconds into exercise
 - B. From about 30 seconds into exercise
 - C. Only after several hours
 - D. Only during rest

- 4. During exercise, ATP is produced through which energy systems?**
 - A. The three energy systems
 - B. Only ATP-PC
 - C. Only oxidative phosphorylation
 - D. Only glycolysis

- 5. What is energy availability and why is it important for athletes?**
 - A. Energy availability equals dietary energy intake minus exercise energy expenditure normalized to lean body mass; low availability can impair performance, metabolic rate, and health.
 - B. Energy availability is only about calories consumed without exercise.
 - C. Energy availability is the ratio of fat to carbohydrate intake.
 - D. Energy availability is a measure of hydration status.

- 6. Heat acclimation adaptations include which changes?**
- A. Decreased plasma volume.
 - B. Earlier onset of sweating.
 - C. Higher resting core temperature.
 - D. Reduced cardiovascular efficiency.
- 7. Which of the following is an example of a sport that relies primarily on the aerobic energy system?**
- A. Marathon
 - B. 100 m sprint
 - C. Powerlifting
 - D. Shot put
- 8. Which fibre possesses purely anaerobic characteristics?**
- A. Type I
 - B. Type IIa
 - C. Type IIb
 - D. Type IIx
- 9. Stored ATP can supply energy for approximately how long?**
- A. 5-10 seconds
 - B. 20-30 seconds
 - C. 60-90 seconds
 - D. 0-2 seconds
- 10. Which statement best describes energy balance in relation to body composition?**
- A. It only concerns fat intake.
 - B. It equals calories consumed minus calories expended, affecting body fat and lean mass over time.
 - C. It is unrelated to body composition.
 - D. It is the same as protein balance.

Answers

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

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Explanations

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1. What does an increased arteriovenous oxygen difference indicate about tissue oxygen extraction?

- A. No significance
- B. Decreased extraction
- C. Lower delivery
- D. Greater extraction**

Arteriovenous oxygen difference shows how much oxygen the tissues take from the blood as it flows through capillaries. If that difference increases, it means more oxygen is being removed from the blood by the tissues—i.e., greater tissue oxygen extraction. This can happen when metabolic demand rises (like during exercise) or when delivery is limited, so tissues compensate by extracting more of what arrives. If extraction were lower, the difference would be smaller, because less oxygen is pulled out.

2. What does a higher a-VO₂ diff mean?

- A. It indicates lower oxygen extraction by muscles.
- B. It indicates higher heart rate only.
- C. It means the muscle is using more oxygen and more oxygen is diffused into the blood at the lungs.**
- D. It means more carbon dioxide is produced.

A higher arterial-venous oxygen difference means the tissues are extracting more oxygen from the blood as it passes through the body, which happens when metabolic demand rises (like during exercise). When muscles use more oxygen, the venous blood returns more deoxygenated, widening the difference between arterial and venous oxygen content. If the lungs also deliver more oxygen to the blood (greater O₂ diffusion into the blood), there is more oxygen available to extract, further increasing the difference. So this indicates the muscle is using more oxygen and more oxygen is being supplied to the blood in the lungs to support that increased extraction. It's about oxygen use by tissues, not just heart rate or CO₂ production.

3. From which point into exercise can the aerobic system become the predominant energy source?

- A. 0 seconds into exercise
- B. From about 30 seconds into exercise**
- C. Only after several hours
- D. Only during rest

When exercise begins, energy comes from different systems that ramp up at different speeds. The immediate supply comes from the phosphagen system (ATP-PCr) and from anaerobic glycolysis, providing quick ATP for the first seconds. The aerobic system needs a moment to ramp up because it relies on oxygen delivery and mitochondrial ATP production, which take a bit of time to match the demand. Once oxygen uptake catches up and oxidative phosphorylation can meet the energy needs, the aerobic system becomes the main source of fuel. For many submaximal efforts, this shift to predominant aerobic energy happens around 30 seconds into activity. After that point, the body can sustain the energy requirement mainly through aerobic metabolism, with anaerobic contributions decreasing relative to total ATP production. The other options aren't consistent with how the body adapts to ongoing work: energy isn't provided predominantly by aerobic processes at the very moment exercise starts, nor is it limited to only after hours or during rest.

4. During exercise, ATP is produced through which energy systems?

- A. The three energy systems
- B. Only ATP-PC
- C. Only oxidative phosphorylation
- D. Only glycolysis

ATP during exercise doesn't come from a single source. It is produced by three energy systems that all contribute, with their relative roles shifting based on how hard and how long you're exercising. The immediate supply comes from the ATP-PC (phosphocreatine) system, which delivers quick energy for very short, high intensity efforts but runs out quickly. As activity continues, glycolysis kicks in to provide more ATP rapidly, even without oxygen, though it's less efficient and can produce lactate. For longer, steady work, oxidative phosphorylation in the mitochondria becomes the main source of ATP, using carbohydrates and fats and requiring oxygen, though this system is slower to ramp up. In real exercise, all three systems are active, supplying ATP in a blended, time dependent way.

5. What is energy availability and why is it important for athletes?

- A. Energy availability equals dietary energy intake minus exercise energy expenditure normalized to lean body mass; low availability can impair performance, metabolic rate, and health.
- B. Energy availability is only about calories consumed without exercise.
- C. Energy availability is the ratio of fat to carbohydrate intake.
- D. Energy availability is a measure of hydration status.

Energy availability is the amount of energy left for the body's essential functions after the energy spent on exercise has been subtracted from what you eat, expressed per unit of lean body mass. This framing matters because it shows not just how much you eat, but how much you have available after training to support metabolism, recovery, growth, and other physiological processes. For athletes, maintaining adequate energy availability helps preserve performance, resting metabolic rate, and overall health. Low energy availability means there isn't enough energy for normal bodily functions, which can impair performance, slow metabolic rate, and compromise health outcomes like hormonal balance and immunity. The best description captures both the calculation—dietary energy intake minus exercise energy expenditure, normalized to lean body mass—and the consequence of low availability. It's not just about calories eaten without considering exercise, it's not about the fat-to-carbohydrate ratio, and it isn't a hydration measure.

6. Heat acclimation adaptations include which changes?

- A. Decreased plasma volume.
- B. Earlier onset of sweating.
- C. Higher resting core temperature.
- D. Reduced cardiovascular efficiency.

Heat acclimation improves the body's ability to regulate temperature through coordinated changes in sweating and cardiovascular function. The most consistent and impactful early adaptation is that sweating begins sooner during heat exposure, at a lower core or skin temperature. Starting to sweat earlier increases evaporative cooling when it's needed most, helping keep the core temperature from rising as quickly during activity in the heat. Other adjustments support this cooling efficiency but in different ways. Plasma volume expands with acclimation, which helps sustain a higher stroke volume and supports more effective sweating. Resting core temperature tends to stay the same or be slightly lower, not higher, during acclimation. Cardiovascular efficiency actually improves, with a lower heart rate for the same workload due to the increased plasma volume and better thermoregulatory responses. So, the adaptation that best fits heat acclimation is earlier onset of sweating.

7. Which of the following is an example of a sport that relies primarily on the aerobic energy system?

A. Marathon

B. 100 m sprint

C. Powerlifting

D. Shot put

The main idea here is how energy systems drive different types of sport performance. Endurance events rely on the aerobic energy system, which uses oxygen to produce ATP over long periods, supporting sustained muscle activity with fuel from fats and carbohydrates. This system is efficient for prolonged efforts and keeps fatigue low enough to continue moving for hours. A marathon is the clear example because it requires continuous, submaximal effort for an extended time. The aerobic system provides the majority of the energy throughout the race, drawing on the body's oxygen delivery and mitochondrial capacity to keep ATP production going as pace is maintained. In contrast, the other activities are dominated by quick, powerful efforts. A 100 m sprint is finished in a matter of seconds and depends on the phosphagen system (ATP-CP) with a heavy contribution from anaerobic glycolysis, not the aerobic system. Powerlifting and shot put are short, explosive actions that rely on rapid, high-power bursts powered mainly by the ATP-CP system, with some anaerobic glycolysis, rather than sustained aerobic metabolism. So, marathon stands out as the sport whose performance is driven primarily by the aerobic energy system.

8. Which fibre possesses purely anaerobic characteristics?

A. Type I

B. Type IIa

C. Type IIb

D. Type IIx

Purely anaerobic energy production comes from the fast glycolytic muscle fibers. These fibers are designed for short, explosive efforts and rely almost entirely on anaerobic glycolysis to generate ATP, so oxygen isn't used to meet most of their energy needs. They contain lots of glycolytic enzymes and glycogen, but relatively few mitochondria and low myoglobin, which means they can contract quickly and with great force, but fatigue rapidly. Among the options, the fast glycolytic type best fits this description as purely anaerobic. The other types rely more on oxidative metabolism (Type I) or use a mix of aerobic and anaerobic pathways (Type IIa), or are fast glycolytic but not as exclusively anaerobic across classifications (Type IIx/IIb), depending on schooling. In this context, the fast glycolytic fiber is identified as the purely anaerobic one.

9. Stored ATP can supply energy for approximately how long?

A. 5-10 seconds

B. 20-30 seconds

C. 60-90 seconds

D. 0-2 seconds

Stored ATP in muscle serves as an immediate fuel reserve, and it is exhausted very quickly during high-intensity work. The amount available supports contraction for only about up to two seconds. After that brief window, other energy systems must kick in to continue producing ATP—first the phosphocreatine system to resupply ATP for a short additional burst, then glycolysis and oxidative metabolism for longer activities. So the best way to think about stored ATP alone is that it powers activity for roughly 0–2 seconds.

10. Which statement best describes energy balance in relation to body composition?

A. It only concerns fat intake.

B. It equals calories consumed minus calories expended, affecting body fat and lean mass over time.

C. It is unrelated to body composition.

D. It is the same as protein balance.

Energy balance is about how the calories you eat compare with the calories you burn through activity and metabolism. The net difference, calories consumed minus calories expended, determines how your body composition changes over time. If you consistently consume more energy than you expend, the surplus tends to be stored as fat, and with appropriate protein and training you can also gain lean mass; if you expend more than you consume, fat mass decreases and lean tissue changes depend on protein intake and exercise. This definition directly links the caloric surplus or deficit to shifts in both fat and lean mass, which is why it's the best description. It isn't just about fat intake, it's related to body composition, and it isn't the same as protein balance.

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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:

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

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