New Zealand EMT Computer-Aided Dispatch (CAD) 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. What storage molecule is converted to glucose by glucagon?

A. Starch

B. Glycogen

C. Fat

D. Cellulose

2. What is a notable change in the neurological system of geriatric patients?

A. Increased brain mass

B. Brain shrinkage

C. Improved cognitive function

D. Decreased reflexes

3. How many ATP molecules are produced during aerobic metabolism?

A. 32 ATP

B. 36 ATP

C. 38 ATP

D. 40 ATP

4. What blood glucose level indicates hypoglycaemia?

A. 3.5 mmol/L

B. 3.9 mmol/L

C. 4.0 mmol/L

D. 5.0 mmol/L

5. In which direction does a patella normally dislocate?

A. Medial

B. Lateral

C. Proximal

D. Distal

6. Which inflammatory factor is inhibited by both paracetamol and ibuprofen?

A. Histamines

B. Bradykinin

C. Prostaglandins

D. Cytokines

7. What is the recommended application method for topical adrenaline?

A. Inject directly into the muscle

B. Apply to gauze pad and then to the wound

C. Spray directly onto the wound

D. Soak a bandage in the solution and wrap it

8. Between which two points is the NPA measured?

A. Nostril and ear lobe

B. Nose and chin

C. Mouth and throat

D. Forehead and neck

9. What is a major effect of beta 1 stimulation by adrenaline?

A. Vasodilation of peripheral blood vessels

B. Increased heart rate

C. Decrease in cardiac contractility

D. Increased production of insulin

10. Which action of aspirin is primarily used in clinical settings?

A. Antipyretic

B. Analgesic

C. Antinflammatory

D. Antiplatelet

Answers

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

Explanations

1. What storage molecule is converted to glucose by glucagon?

A. Starch

B. Glycogen

C. Fat

D. Cellulose

The storage molecule that is converted to glucose by glucagon is glycogen. Glycogen is a carbohydrate that serves as a key energy reserve in the body, primarily stored in the liver and muscles. When blood glucose levels drop, glucagon is released by the pancreatic alpha cells, which signals the liver to break down glycogen into glucose through a process called glycogenolysis. This release of glucose into the bloodstream is crucial for maintaining proper blood sugar levels, especially during periods of fasting or intense physical activity. The body's ability to convert glycogen to glucose helps ensure a steady supply of energy for metabolic processes and supports the functioning of vital organs, including the brain. Other storage molecules mentioned in the choices serve different purposes. Starch is a plant polysaccharide used for energy storage in plants but is not directly converted by glucagon in the human body. Fat, primarily in the form of triglycerides, is stored for long-term energy needs but is not transformed into glucose by glucagon. Cellulose is a complex plant carbohydrate that serves a structural role in cell walls and cannot be converted into glucose by the human body.

2. What is a notable change in the neurological system of geriatric patients?

A. Increased brain mass

B. Brain shrinkage

C. Improved cognitive function

D. Decreased reflexes

In geriatric patients, a notable change in the neurological system is brain shrinkage. As individuals age, various physiological changes occur within the brain, leading to a gradual decrease in brain volume. This shrinkage is often associated with a loss of neurons and neuroplasticity, which can affect cognitive functions, memory, and overall brain health. Research shows that this brain atrophy may contribute to cognitive decline, affecting areas responsible for memory, processing speed, and other cognitive tasks. Understanding this change is crucial for health professionals working with older adults, as it informs assessment, treatment plans, and realistic expectations regarding cognitive health in the geriatric population. The other choices suggest improvements or increases in neurological function or structure, which do not align with the typical changes observed in aging.

3. How many ATP molecules are produced during aerobic metabolism?

A. 32 ATP

B. 36 ATP

C. 38 ATP

D. 40 ATP

The correct answer is 38 ATP molecules produced during aerobic metabolism. This includes the total yield of ATP during the complete oxidation of one molecule of glucose in the presence of oxygen. In aerobic respiration, glucose undergoes glycolysis, the citric acid cycle (Krebs cycle), and oxidative phosphorylation, allowing for a maximal yield of ATP in the presence of oxygen. During glycolysis, a net of 2 ATP is produced. The citric acid cycle yields additional ATP through substrate-level phosphorylation and produces electron carriers (NADH and FADH2) that are essential for the electron transport chain. The oxidative phosphorylation phase uses the electrons from NADH and FADH2 to create a proton gradient across the mitochondrial membrane, which drives ATP synthesis through ATP synthase. The specific yields can vary slightly depending on the cell type and conditions. For most human cells, the complete oxidation of glucose yields about 36-38 ATP. However, under typical conditions, the true yield is often rounded to 38 ATP molecules: 2 from glycolysis, 2 directly from the citric acid cycle, and 34 from the electron transport chain leveraging the reduction potentials of NADH and FADH2. This understanding highlights key metabolic processes and the

4. What blood glucose level indicates hypoglycaemia?

A. 3.5 mmol/L

B. 3.9 mmol/L

C. 4.0 mmol/L

D. 5.0 mmol/L

Hypoglycaemia is commonly defined as a blood glucose level that falls below 4.0 mmol/L. In this context, a blood glucose level of 3.5 mmol/L indicates hypoglycaemia because it is below the threshold that is generally accepted by medical standards for determining low blood sugar. This level could lead to various symptoms, including confusion, irritability, weakness, or even loss of consciousness if not addressed promptly. The other levels listed (3.9 mmol/L, 4.0 mmol/L, and 5.0 mmol/L) either meet or exceed the threshold of hypoglycaemia, thus not qualifying as indicators of this condition. Understanding these values helps in responding appropriately in a clinical setting or emergency situation.

5. In which direction does a patella normally dislocate?

A. Medial

B. Lateral

C. Proximal

D. Distal

The patella, or kneecap, normally dislocates laterally. This tendency is influenced by several anatomical factors, including the shape of the femur and the alignment of the knee joint. The lateral dislocation occurs typically when there is a force applied to the knee or during sudden movements, especially if the leg is turned or twisted. The vastus medialis muscle, which is part of the quadriceps muscle group, helps keep the patella in the correct alignment. If the strength and balance between the muscles are disrupted or if there is a structural anomaly, the patella may dislocate toward the lateral side. This lateral tendency contrasts with other directions, such as medial, proximal, or distal, which are less common. Medial dislocations are quite rare due to the bony structures and ligaments that provide more stability on the medial side. Proximal and distal dislocations similarly do not apply in the context of a patellar dislocation as they refer to movement towards or away from the body in relation to anatomical structures, rather than lateral movement in the plane of the knee joint. Understanding this dynamic is crucial for EMTs and healthcare providers when assessing knee injuries, as a lateral dislocation can indicate underlying issues

6. Which inflammatory factor is inhibited by both paracetamol and ibuprofen?

A. Histamines

B. Bradykinin

C. Prostaglandins

D. Cytokines

Paracetamol and ibuprofen both inhibit the production of prostaglandins, which are key inflammatory mediators. Prostaglandins play a significant role in promoting inflammation, fever, and pain. By reducing the levels of these compounds, both medications alleviate discomfort and reduce inflammation. Paracetamol primarily acts in the central nervous system, influencing pain and temperature regulation, while ibuprofen is a non-steroidal anti-inflammatory drug (NSAID) that works peripherally to decrease prostaglandin synthesis. This shared action is why both drugs can effectively manage symptoms related to inflammation and pain. In contrast, histamines, bradykinin, and cytokines are involved in other pathways related to the inflammatory response but are not directly inhibited by either paracetamol or ibuprofen in the same way as prostaglandins. This distinction highlights why the correct response is focused on the role of prostaglandins in the mechanism of action of both medications.

7. What is the recommended application method for topical adrenaline?

A. Inject directly into the muscle

B. Apply to gauze pad and then to the wound

C. Spray directly onto the wound

D. Soak a bandage in the solution and wrap it

The recommended application method for topical adrenaline is to apply it to a gauze pad and then place that pad on the wound. This method allows for controlled delivery of the medication to the affected area, ensuring that the adrenaline can work effectively on localized tissues. By using a gauze pad, the adrenaline can be evenly distributed over the area, which may help to achieve the desired effect of vasoconstriction and reducing bleeding at the site of injury. Using this method also minimizes the risk of inadvertently introducing the drug systemically or causing irritation that might occur with other application techniques, such as injecting directly into muscle or spraying directly onto the wound. Soaking a bandage in the solution and wrapping it may also lead to uneven distribution or a reduced effectiveness of the medication. Therefore, the gauze pad method not only optimizes the efficacy but also maintains safety and efficacy in its application.

8. Between which two points is the NPA measured?

A. Nostril and ear lobe

B. Nose and chin

C. Mouth and throat

D. Forehead and neck

The correct choice identifies the nasopharyngeal airway (NPA) measurement as being between the nostril and the ear lobe. This measurement is utilized as a guideline for determining the appropriate size of the NPA to be inserted into a patient's nasal passage. The goal is to ensure that the airway device fits properly and is clinically effective without causing discomfort or injury to the patient. Using the nostril as the entry point corresponds with where the NPA will be inserted, while the ear lobe serves as a reference for the appropriate length. It's crucial that the device reaches the correct depth in order to ensure that the airway remains open and unobstructed, facilitating adequate ventilation and oxygenation for the patient. Other options, while related to different anatomical landmarks or areas, do not provide the correct reference points for measuring the NPA and therefore are not suitable for this specific purpose.

9. What is a major effect of beta 1 stimulation by adrenaline?

A. Vasodilation of peripheral blood vessels

B. Increased heart rate

C. Decrease in cardiac contractility

D. Increased production of insulin

Stimulation of beta 1 receptors, primarily located in the heart, leads to various physiological responses. One of the major effects of adrenaline (also known as epinephrine) activating these receptors is an increase in heart rate, a phenomenon known as positive chronotropic effect. When adrenaline binds to beta 1 receptors, it causes the heart's pacemaker cells in the sinoatrial (SA) node to fire more rapidly, resulting in a faster heart rate. This increase in heart rate is crucial during the 'fight or flight' response, where the body prepares to react to stress or danger by enhancing cardiac output, ensuring that more oxygenated blood reaches the tissues. This enhanced cardiac activity is essential for supporting physical exertion and maintaining energy levels during stressful situations. In this context, the other choices do not accurately reflect the main effect of beta 1 stimulation. Vasodilation of peripheral blood vessels is more associated with beta 2 receptor stimulation, while a decrease in cardiac contractility and increased production of insulin are not primary responses to beta 1 activity, highlighting the importance of understanding the specific effects of different adrenergic receptor stimulation in the body.

10. Which action of aspirin is primarily used in clinical settings?

A. Antipyretic

B. Analgesic

C. Antinflammatory

D. Antiplatelet

Aspirin is primarily recognized for its antiplatelet action in clinical settings. This property makes it a critical medication in the management and prevention of cardiovascular events, such as heart attacks and strokes. The mechanism behind this action involves aspirin irreversibly inhibiting cyclooxygenase (COX-1) enzymes in platelets, which decreases the formation of thromboxane A2, a substance that promotes platelet aggregation. Therefore, this action significantly reduces the risk of blood clots forming in the arteries. While aspirin does exhibit antipyretic effects, helping to lower fever, and analgesic properties for pain relief, these are not its primary therapeutic uses in a clinical context. Similarly, although it is classified as an anti-inflammatory medication and can help alleviate inflammation in conditions like arthritis, its predominant role in emergency and cardiovascular care is its ability to inhibit platelet aggregation.

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://nzemtcad.examzify.com

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