

Aviation Crew-Member Course Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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Questions

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- 1. What does Type 2 decompression sickness specifically involve?**
 - A. Joint pain and skin manifestations**
 - B. Central nervous system disorders**
 - C. Cardiovascular issues**
 - D. Skin irritation**
- 2. How does stress typically impact attention?**
 - A. Enhances focus**
 - B. Causes multitasking**
 - C. Tunneling and task shedding**
 - D. Improves memory recall**
- 3. What is the response time for a routine evacuation?**
 - A. 1 hour**
 - B. 2 hours**
 - C. 4 hours**
 - D. 24 hours**
- 4. What is the primary way a pilot can recognize spatial disorientation?**
 - A. Intuition**
 - B. Visual references**
 - C. Instrument readings**
 - D. Co-pilot confirmations**
- 5. What is one of the physiological consequences of long-term stress?**
 - A. Increased physical strength**
 - B. Improved cognitive function**
 - C. Reduced physical performance capability**
 - D. Enhanced memory capabilities**

- 6. Which of the following contributes to crash criteria survivability?**
- A. Flight altitude**
 - B. Amount of deceleration force**
 - C. Weather conditions**
 - D. Time of day**
- 7. Which areas are considered danger zones of the aircraft?**
- A. Engines**
 - B. Propellers**
 - C. Tail rotors**
 - D. Cargo doors**
- 8. Which procedure is considered less likely to cause permanent vision change?**
- A. LASIK**
 - B. PRK**
 - C. LASEK**
 - D. SMILE**
- 9. What class is approved for flight use?**
- A. Class 1**
 - B. Class 2**
 - C. Class 3**
 - D. Class 4**
- 10. Which of the following can increase G tolerance?**
- A. Clear mental state**
 - B. Tensing of muscles**
 - C. Relaxed body posture**
 - D. Prolonged sitting**

Answers

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

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Explanations

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1. What does Type 2 decompression sickness specifically involve?

- A. Joint pain and skin manifestations**
- B. Central nervous system disorders**
- C. Cardiovascular issues**
- D. Skin irritation**

Type 2 decompression sickness, often referred to in relation to aviation and diving contexts, specifically involves central nervous system disorders. This form of decompression sickness occurs when nitrogen bubbles form in the bloodstream and tissues during rapid decompression, and it can affect major bodily systems, particularly impacting the central nervous system. The central nervous system manifestations can include symptoms such as confusion, dizziness, visual disturbances, and even paralysis, depending on the severity and areas affected. It is critical for crew members to recognize the signs of Type 2 decompression sickness promptly, as immediate treatment is required to prevent serious and potentially life-threatening complications. In contrast, other types of decompression sickness might primarily present with joint pain and skin symptoms, which are more closely associated with Type 1 decompression sickness. While cardiovascular issues can occur due to various medical circumstances, they aren't specifically indicative of Type 2 compression. Skin irritation could also be a symptom of other conditions unrelated to the central nervous system effects seen in Type 2 decompression sickness. Understanding the distinction is vital for effective diagnosis and intervention in aviation and diving-related scenarios.

2. How does stress typically impact attention?

- A. Enhances focus**
- B. Causes multitasking**
- C. Tunneling and task shedding**
- D. Improves memory recall**

Stress typically impacts attention by causing tunneling and task shedding, which refers to a narrowed focus on a specific task while potentially neglecting other important tasks or information. Under high levels of stress, individuals often experience a heightened sense of urgency that can lead to an intense concentration on immediate threats or challenges. This can be beneficial in the short term for addressing critical situations; however, it often comes at the expense of broader situational awareness, which is necessary for effective multitasking and coordination. For instance, when faced with stress, a person might become so focused on a specific detail that they miss critical changes in their surroundings or overlook other tasks that also require attention. This phenomenon underscores the reality that while stress can sometimes heighten one's alertness temporarily, it compromises the ability to manage multiple tasks effectively and can lead to a reduction in overall performance when multitasking is essential.

3. What is the response time for a routine evacuation?

- A. 1 hour**
- B. 2 hours**
- C. 4 hours**
- D. 24 hours**

The correct response time for a routine evacuation is 24 hours. This timeframe is established to ensure that all necessary protocols are followed and that there is sufficient time for planning and execution. Achieving an effective evacuation requires coordination with various agencies, assessment of the situation, and communication with passengers and crew. The 24-hour window allows for comprehensive preparations, which can include securing resources, forming evacuation plans, and implementing training exercises where needed. Quick action within this interval enables crews to respond effectively while considering safety and operational efficiency, ultimately enhancing the success of the evacuation procedure. The other options suggest shorter response times that are not realistic for comprehensive planning and execution required during a routine evacuation scenario.

4. What is the primary way a pilot can recognize spatial disorientation?

- A. Intuition**
- B. Visual references**
- C. Instrument readings**
- D. Co-pilot confirmations**

The primary way a pilot can recognize spatial disorientation is through instrument readings. Spatial disorientation occurs when a pilot's perception of direction or position is disoriented due to misleading sensory inputs. In many situations, especially in conditions of low visibility or when flying in cloud cover, visual references can be severely limited or completely absent. Relying solely on intuition or visual cues can lead to dangerous situations because the body may not adequately interpret the aircraft's actual position in space. Instrument readings, however, provide objective data regarding the aircraft's orientation, altitude, speed, and direction. They serve as reliable feedback for the pilot, allowing them to make informed decisions and maintain control of the aircraft, particularly when external visual cues are not available or trustworthy. This reliance on instruments is critical for maintaining spatial orientation and ensuring safe flight operations.

5. What is one of the physiological consequences of long-term stress?

- A. Increased physical strength**
- B. Improved cognitive function**
- C. Reduced physical performance capability**
- D. Enhanced memory capabilities**

Long-term stress has been shown to have several detrimental effects on the body and mind, one of which is reduced physical performance capability. When an individual experiences chronic stress, the body continuously produces stress hormones like cortisol, which can lead to various physiological changes. Prolonged exposure to these hormones can negatively impact muscle function, energy levels, and overall physical endurance. Additionally, stress can lead to fatigue and can affect the immune system, making an individual more susceptible to illness, which further detracts from physical performance. It disrupts sleep patterns, leading to inadequate rest and recovery, which are crucial for maintaining optimal physical ability. The other choices suggest positive enhancements to physical strength, cognitive function, or memory, which are not associated with long-term stress and may reflect the opposite effects evident in research on stress physiology. Chronic stress tends to impair cognitive performance and memory, rather than enhancing them. Thus, recognizing the relationship between stress and physical capability is essential for managing health effectively.

6. Which of the following contributes to crash criteria survivability?

- A. Flight altitude**
- B. Amount of deceleration force**
- C. Weather conditions**
- D. Time of day**

The amount of deceleration force is a crucial factor in crash criteria survivability because it directly impacts the forces exerted on the occupants during a crash event. High deceleration forces can lead to severe injuries or fatalities, as the body is subjected to rapid changes in speed, which can cause trauma to vital organs and structures. Design considerations for aircraft often focus on minimizing these forces through various measures, such as seatbelt design, seat positioning, and structural integrity of the aircraft's fuselage. Understanding how deceleration affects survivability helps aviation professionals ensure that safety features are optimized to protect crew members and passengers in emergency situations. Other factors, such as flight altitude, weather conditions, and time of day, are more related to the circumstances surrounding a flight rather than the direct impact forces during a crash. While they can influence the likelihood of an accident occurring, they do not inherently affect the survivability criteria in the same way that deceleration forces do during the actual impact.

7. Which areas are considered danger zones of the aircraft?

- A. Engines**
- B. Propellers**
- C. Tail rotors**
- D. Cargo doors**

Tail rotors are considered danger zones on an aircraft, particularly in helicopters, because they produce significant rotational forces that can cause serious injury or damage to personnel who inadvertently enter their effective range. The tail rotor's primary function is to counteract the torque produced by the main rotor and maintain directional control during flight. When the tail rotor is spinning, its blades create a hazardous environment, especially when a person is close enough to come within the rotor's path. Special training and awareness are required for ground crew members to ensure they maintain a safe distance and understand the risks associated with operating around a helicopter. In contrast, while engines, propellers, and cargo doors do present hazards, the unique characteristics of the tail rotor, such as its placement and high speed, particularly emphasize its dangerous nature. Each of these components must be treated with care, but the tail rotor stands out due to the specific risks associated with its operation in flight and on the ground.

8. Which procedure is considered less likely to cause permanent vision change?

- A. LASIK**
- B. PRK**
- C. LASEK**
- D. SMILE**

LASEK (Laser-Assisted Sub-Epithelial Keratectomy) is considered less likely to cause permanent vision change primarily due to its unique procedural approach. LASEK involves using a diluted alcohol solution to loosen the epithelial layer of the cornea, which is then gently pushed aside. After the laser reshapes the corneal tissue beneath, the epithelial layer is repositioned, allowing it to heal naturally without complete removal. This preservation of the epithelial cells helps maintain the cornea's structural integrity, leading to a potentially lower risk of long-term complications and permanent changes in vision when compared to other techniques. In contrast, surgeries like LASIK, PRK, and SMILE involve more significant alterations to the corneal structure. LASIK and SMILE reshape the cornea with the removal of more substantial amounts of corneal tissue, while PRK removes the epithelium entirely before reshaping the underlying stroma. These processes can increase the risk of complications that might lead to permanent vision changes, such as corneal haze or irregularities in corneal healing.

9. What class is approved for flight use?

- A. Class 1**
- B. Class 2**
- C. Class 3**
- D. Class 4**

Class 1 certification is specifically designated for pilots and other aviation crew members who are involved in commercial and airline transportation. This class of medical certification ensures that the individual possesses the highest level of visual acuity, hearing, and overall physical and mental fitness required for safety-critical roles in aviation. It encompasses stringent medical standards to ensure that those responsible for operating aircraft can perform their duties without impairments that could jeopardize the safety of passengers and crew. Class 1 medical certificates are essential for airline transport pilots and allow holders to serve as pilot-in-command of aircraft during commercial operations, which highlights the rigorous standards that must be met. The implications of this certification are significant, establishing a benchmark for health and capability among those in the aviation industry who hold substantial responsibility for the safety of others during flight operations.

10. Which of the following can increase G tolerance?

- A. Clear mental state**
- B. Tensing of muscles**
- C. Relaxed body posture**
- D. Prolonged sitting**

Tensing of muscles is known to greatly enhance G tolerance for aviation crew members. When a person tenses their muscles, particularly in the abdomen and legs, this creates an internal pressure that helps to maintain blood circulation and prevent blood from pooling in the lower parts of the body during high-G maneuvers. This muscular engagement is critical in counteracting the effects of increased gravitational forces, which can otherwise lead to G-induced Loss Of Consciousness (GLOC). In contrast, options like a clear mental state or relaxed body posture may provide psychological benefits or comfort, but do not physically affect the body's ability to handle increased G forces. Similarly, prolonged sitting does not contribute positively to G tolerance and can actually be detrimental by not encouraging circulation in the lower extremities, potentially increasing the risk of G LOC. Therefore, muscle tension is the most effective strategy to enhance G tolerance during high-stress flight conditions.