Endeavor Maneuvers Validation (MV) Oral Practice Test (Sample)

Study Guide

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Questions

1. How is the FADEC powered when the N2 is below 50%?

A. By an external power source

B. By the aircraft's main batteries electrical system

C. Directly from the engines

D. By a backup generator

2. In which situation would you need to manually turn off emergency lights?

A. If the aircraft is still operational

B. If power is restored to the aircraft

C. If the emergency lights are still illuminated after power down

D. If the flight crew deems it necessary

3. What information does the FMS provide?

A. Weather updates for the flight path

B. RNP, Radio, Navigation, and Performance

C. Fuel consumption rates

D. Only navigation data

4. Where are the escape ropes located?

A. In the cargo hold

B. One on the flight deck and one on each side near the exit

C. In the overhead bins

D. Only in the rear of the aircraft

5. What is the first warning indicated by the CPAM sequence at 8500 feet?

A. CABIN ALT WARNING

B. CABIN ALT CAUTION

C. CABIN PRESSURE ALERT

D. EMERGENCY DESCENT

6. When must windshield heat be activated?

A. At any altitude when temperatures drop

B. Below 30 degrees and during flight after takeoff

C. Only during landing

D. When temperature exceeds 30 degrees

7. When will the ADG deploy?

- **A. When the aircraft exceeds cruising altitude**
- **B. When AC BUS 1 and AC BUS 2 are unpowered**
- **C. If the pilot initiates a manual override**
- **D. During emergency landings**

8. What is the sequence of events for an APU fire while on the ground?

- **A. APU shuts down and alarm sounds**
- **B. Manual squib activation required**
- **C. Squib activates automatically within 5 seconds**
- **D. Emergency power deployed immediately**

9. What happens if both ESS TRUs fail?

- **A. The system will operate normally**
- **B. All power will be lost**
- **C. The CROSS TIE closes**
- **D. Only backup systems will engage**

10. What action should be confirmed when handling the pitch disc during an elevator jam situation?

- **A. Disconnect and isolate all systems**
- **B. Ensure a smooth pull and lock**
- **C. Recheck backup systems**
- **D. Notify ground control immediately**

Answers

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

Explanations

1. How is the FADEC powered when the N2 is below 50%?

A. By an external power source

B. By the aircraft's main batteries electrical system

C. Directly from the engines

D. By a backup generator

The correct choice is that the FADEC (Full Authority Digital Engine Control) is powered by the aircraft's main batteries electrical system when the N2 (the speed of the high-pressure compressor) is below 50%. This is important because the FADEC system requires electrical power to operate its various functions, including managing fuel flow, ignition, and throttle settings. At low N2 values, the engines may not produce enough power or electrical output to sustain the FADEC function, so the system relies on the aircraft's battery to ensure continuous operation. This allows the FADEC to maintain control of the engine during critical phases of operation, such as engine start or in the event of a power loss from the engines. Other options like using an external power source or a backup generator are generally applicable in specific situations or aircraft configurations but do not represent the standard operational procedure for FADEC power at low N2 speeds.

2. In which situation would you need to manually turn off emergency lights?

A. If the aircraft is still operational

B. If power is restored to the aircraft

C. If the emergency lights are still illuminated after power down

D. If the flight crew deems it necessary

The situation where you would need to manually turn off emergency lights is when the emergency lights remain illuminated after the aircraft's power has been turned off. In this case, if the emergency lights do not extinguish as expected, manual intervention is necessary to ensure that the lights are deactivated. This is crucial to prevent any unnecessary distractions or confusion during emergency procedures and to confirm that all systems are functioning as intended. Maintaining control over the emergency lights contributes to safe operation and management of emergency protocols onboard the aircraft. In contrast, other situations like an aircraft being operational or when power is restored would not typically require manual deactivation because the emergency lights are designed to function based on the operational state of the aircraft. If the flight crew deems it necessary, it's usually more about assessing circumstances rather than a standard procedure for turning off the lights.

3. What information does the FMS provide?

A. Weather updates for the flight path

B. RNP, Radio, Navigation, and Performance

C. Fuel consumption rates

D. Only navigation data

The Flight Management System (FMS) provides critical data that includes RNP (Required Navigation Performance), Radio, Navigation, and Performance information. This integrated system allows for the efficient management of the flight, incorporating various parameters that pilots rely on for safe and effective operations. RNP details the navigational accuracy required for a specific operation, ensuring that the aircraft follows a precise path. The radio component refers to the communication and navigation aids available to the aircraft, enabling connectivity and guidance throughout the flight. Navigation data includes position information, waypoints, and route planning, which are essential for situational awareness. Performance encompasses data related to aircraft capabilities and performance metrics, assisting pilots in managing speed, altitude, and fuel usage effectively. While weather updates are important for flight safety, they are typically sourced from separate systems and not directly provided by the FMS. Similarly, while fuel consumption rates are a part of the performance data, the FMS's primary function encompasses a broader range of navigation and operational data, rather than solely focusing on fuel metrics or navigation data alone.

4. Where are the escape ropes located?

A. In the cargo hold

B. One on the flight deck and one on each side near the exit

C. In the overhead bins

D. Only in the rear of the aircraft

The escape ropes are strategically positioned to ensure quick and efficient evacuation during an emergency situation. Having one on the flight deck and one on each side near the exit provides easy access for the crew and passengers to escape the aircraft as quickly as possible. This placement allows for multiple exit points, enhancing safety by providing options depending on the situation, such as whether the aircraft is on land or potentially submerged. The other locations suggested do not maximize accessibility and effectiveness in emergency conditions. For instance, placing escape ropes in the cargo hold would be impractical, as it may not be accessible during an emergency. Similarly, storing them only in the rear of the aircraft limits quick escape routes, especially if the front exits are compromised. Keeping them in the overhead bins may create delays in retrieval during a critical moment. The configuration chosen reflects a balance between safety and operational efficiency.

5. What is the first warning indicated by the CPAM sequence at 8500 feet?

A. CABIN ALT WARNING

B. CABIN ALT CAUTION

C. CABIN PRESSURE ALERT

D. EMERGENCY DESCENT

The first warning indicated by the Cabin Pressure and Altitude Monitoring (CPAM) sequence at 8500 feet is the CABIN ALT CAUTION. This caution alert is crucial as it notifies the crew that the cabin altitude has reached a level where the pressure difference between the cabin and the outside air may start to pose a risk to passenger safety and comfort. At this altitude, the system is designed to provide an early warning to allow adequate time for flight crew to assess the situation. The CABIN ALT CAUTION serves as an informative precursor to higher urgency warnings, which will follow if the situation does not improve or if cabin altitude rises significantly beyond normal operating levels. This systematic approach helps ensure that any necessary actions can be taken promptly, mitigating risks associated with cabin pressurization issues. Understanding this hierarchy of warnings is essential for effective decision-making and maintaining safety protocols in flight operations.

6. When must windshield heat be activated?

A. At any altitude when temperatures drop

B. Below 30 degrees and during flight after takeoff

C. Only during landing

D. When temperature exceeds 30 degrees

Windshield heat should be activated below 30 degrees and during flight after takeoff to ensure clear visibility. This is particularly important because the moisture from the air can freeze on the windshield, obstructing the pilot's view and potentially leading to dangerous situations. Activating the windshield heat in these conditions helps to prevent frost or ice accumulation, maintaining safety during flight operations when temperatures are low. While it may seem reasonable to activate windshield heat at any altitude when temperatures drop, it is specifically critical to do so below 30 degrees to effectively combat the freezing of moisture. The requirement is also not limited to just the landing phase, as visibility during all phases of flight is essential. Activating the heat when temperatures exceed 30 degrees would not be necessary, as the risk of ice or frost formation is not as prominent at these warmer temperatures. Thus, the correct answer emphasizes the specific conditions under which windshield heat is required for safe flight operations.

7. When will the ADG deploy?

A. When the aircraft exceeds cruising altitude

B. When AC BUS 1 and AC BUS 2 are unpowered

C. If the pilot initiates a manual override

D. During emergency landings

The ADG, or Air Driven Generator, is designed to deploy automatically in response to specific loss of power conditions. The correct answer indicates that the ADG will deploy when both AC BUS 1 and AC BUS 2 are unpowered. This scenario is critical because the loss of power to these essential buses indicates a failure in the primary electrical system, and the ADG acts as a backup by providing power to crucial systems, thus ensuring flight control remains operational. In contrast, deploying the ADG under the other circumstances is not accurate. For instance, exceeding cruising altitude does not inherently relate to the activation of the ADG, as it focuses on electrical availability rather than altitude. Manual overrides by pilots do not trigger the ADG; it is designed to function automatically without manual initiation in the event of power loss. Additionally, while emergency landings can lead to various maneuvers, they do not specifically dictate the conditions under which the ADG deploys, as the ADG's activation is contingent upon the electrical state of the aircraft's busses.

8. What is the sequence of events for an APU fire while on the ground?

A. APU shuts down and alarm sounds

B. Manual squib activation required

C. Squib activates automatically within 5 seconds

D. Emergency power deployed immediately

The sequence of events for an Auxiliary Power Unit (APU) fire on the ground typically begins with the APU automatically detecting the fire and responding within a short timeframe. The automatic activation of the squib, which is a device that initiates the discharge of the fire extinguishing agent, occurs within about five seconds of the detected fire. This quick response is crucial to mitigate the risks associated with APU fires, as it helps to contain the situation before it escalates. This sequence ensures that there is a prompt reaction to potential danger, minimizing harm to the aircraft and enhancing safety for those on board. In comparison, although manual squib activation is an option within some protocols, it is not the primary or most effective response to an APU fire on the ground, as the automatic system is designed to act swiftly without the need for manual intervention. The other events, such as the alarm sounding and emergency power deployment, may occur as part of overall safety protocols or subsequent actions but are not the critical initial response to an APU fire.

9. What happens if both ESS TRUs fail?

A. The system will operate normally

B. All power will be lost

C. The CROSS TIE closes

D. Only backup systems will engage

If both Engine-driven Generator (ESS TRUs) fail, the correct outcome is that the CROSS TIE closes. This action is critical as it allows for the sharing of power between the two power sources, thus ensuring that power can still be distributed to essential systems. The CROSS TIE effectively connects the power buses, allowing remaining functional systems to draw power from alternative sources, which enhances overall system redundancy and reliability. In normal operation, the TRUs are responsible for converting AC power into DC power for various aircraft systems. When both fail, without the CROSS TIE closing, several critical electrical systems could lose power, severely affecting aircraft operation. The closure of the CROSS TIE is a safety feature designed to mitigate such a failure by automatically transferring power and maintaining system functionality despite the loss of the primary TRUs.

10. What action should be confirmed when handling the pitch disc during an elevator jam situation?

A. Disconnect and isolate all systems

B. Ensure a smooth pull and lock

C. Recheck backup systems

D. Notify ground control immediately

When handling the pitch disc during an elevator jam situation, ensuring a smooth pull and lock is critical for maintaining control and safety. This action involves carefully managing the aircraft's control surfaces to avoid exacerbating the jam or causing sudden movements that could compromise flight stability. A smooth pull and lock help to maintain the integrity of the control mechanism, reducing the risk of further complications that could arise from abrupt actions. In the context of an elevator jam, managing the pitch disc with precision is vital because it directly affects the aircraft's pitch control. While other choices involve important safety protocols and checks, they do not specifically address the immediate actions required to safely navigate through the jam situation. Confirming a smooth pull and lock prioritizes effective handling of the elevator controls, essential for the pilot to respond adequately during this critical phase.