

T-6 Propulsion, Instruments, and Training (PIT) Systems Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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Questions

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- 1. What is the secondary or backup refueling method called for the T-6A?**
 - A. Single point pressure refueling**
 - B. Gravity feed refueling**
 - C. Over the wing gravity refueling**
 - D. Direct feed refueling**
- 2. Which information is NOT displayed by the EHSI when tuned to a navigation facility with DME capability?**
 - A. Ground speed**
 - B. Track to the next waypoint**
 - C. Wind direction and speed**
 - D. Distance to the DME station**
- 3. Activating the _____ prevents engine compartment smoke and/or fumes from entering the cockpit after an engine shutdown.**
 - A. A. emergency shutoff**
 - B. B. firewall shutoff**
 - C. C. smoke ejector**
 - D. D. ventilation control**
- 4. EFIS approach mode adds which of the following elements to the standard instrument displays?**
 - A. Glideslope, localizer, altitude**
 - B. Heading, altitude, traffic**
 - C. Glideslope, localizer, marker beacon**
 - D. Vertical speed, heading, localizer**
- 5. Which components provide enhanced bird strike protection in the aircraft?**
 - A. Windscreen and tail assembly**
 - B. Windscreen and front cockpit transparency**
 - C. Wing structure and propeller**
 - D. Canopy and fuselage**

- 6. What should be monitored when using the hydraulic systems on the aircraft?**
- A. Voltage levels**
 - B. Fluid levels and pressure**
 - C. Temperature settings**
 - D. Fuel capacity**
- 7. True or False: The T-6A air conditioning system is electrically operated and available when electrical power is applied to the aircraft.**
- A. True**
 - B. False**
 - C. Only available during ground operations**
 - D. Requires external power**
- 8. Which type of communication system is primarily associated with Guard receivers?**
- A. VHF systems**
 - B. UHF systems**
 - C. HF systems**
 - D. Satellite systems**
- 9. What is the primary function of the emergency landing gear extension handle?**
- A. It activates the emergency system**
 - B. It releases the landing gear locks**
 - C. It charges the hydraulic accumulator**
 - D. It signals the gear position**
- 10. Standby instruments are generally powered by which source?**
- A. AC power supply**
 - B. Main battery**
 - C. Battery bus**
 - D. Alternator**

Answers

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

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Explanations

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1. What is the secondary or backup refueling method called for the T-6A?

- A. Single point pressure refueling**
- B. Gravity feed refueling**
- C. Over the wing gravity refueling**
- D. Direct feed refueling**

The secondary or backup refueling method for the T-6A is known as over the wing gravity refueling. This method involves transferring fuel into the aircraft's fuel tanks from above, allowing gravity to facilitate the flow of fuel. Over the wing refueling is particularly useful in situations where the primary refueling method—single point pressure refueling—may be unavailable or inoperative. This method offers several operational advantages, including its simplicity and effectiveness in replenishing fuel without the need for specialized equipment. It is particularly advantageous in deployments or locations where quick refueling is required, and pressure refueling systems might not be readily available. The other methods listed, while important for understanding refueling protocols, do not serve as the designated secondary method for the T-6A specifically. Single point pressure refueling is the standard method employed, and gravity feed refueling may refer to alternate processes but does not specify the over the wing approach characterized by the T-6A system. Direct feed refueling is not a recognized term associated with the T-6A's standard procedures.

2. Which information is NOT displayed by the EHSI when tuned to a navigation facility with DME capability?

- A. Ground speed**
- B. Track to the next waypoint**
- C. Wind direction and speed**
- D. Distance to the DME station**

The information provided by the Electronic Horizontal Situation Indicator (EHSI) when tuned to a navigation facility with Distance Measuring Equipment (DME) capability includes several key data points necessary for navigation. Among these, ground speed, track to the next waypoint, and distance to the DME station are critical flight parameters that the EHSI displays. Ground speed is essential for pilots to understand their rate of travel over the ground. The track to the next waypoint helps in maintaining the intended course towards the destination, which is vital for effective navigation. Additionally, the distance to the DME station is fundamental for determining how far a pilot is from that navigational aid. On the other hand, wind direction and speed are not directly displayed by the EHSI when tuned to a DME facility. Although these parameters are crucial for flight planning and performance calculations, they are typically obtained through separate instruments or systems, such as the air data computer, rather than being part of the information provided by the EHSI in conjunction with DME data.

3. Activating the _____ prevents engine compartment smoke and/or fumes from entering the cockpit after an engine shutdown.

A. A. emergency shutoff

B. B. firewall shutoff

C. C. smoke ejector

D. D. ventilation control

The activation of the firewall shutoff is essential for preventing engine compartment smoke and/or fumes from entering the cockpit after an engine shutdown. This component functions by isolating the cockpit from the engine compartment, thereby acting as a barrier to any harmful contaminants that may be present due to engine operation or potential malfunctions. When the firewall shutoff is engaged, it effectively closes off the flow of air and any potential smoke or fumes from the engine bay, ensuring the safety and health of the crew in the cockpit. This is particularly crucial in situations where an emergency shutdown is required, as it mitigates the risk of inhaling toxic substances that could arise from engine issues or fuel leaks. Other options present different functionalities that do not focus directly on sealing the cockpit from the engine compartment environment. For instance, the emergency shutoff is used to immediately terminate engine operations, while the smoke ejector is designed to remove smoke from the cockpit but does not prevent it from entering in the first place. Ventilation control, on the other hand, manages air circulation within the cockpit but does not serve the specific purpose of blocking smoke and fumes post-engine shutdown.

4. EFIS approach mode adds which of the following elements to the standard instrument displays?

A. Glideslope, localizer, altitude

B. Heading, altitude, traffic

C. Glideslope, localizer, marker beacon

D. Vertical speed, heading, localizer

The correct answer highlights the specific elements that the EFIS (Electronic Flight Instrument System) approach mode integrates into standard instrument displays. In this mode, the system provides a glideslope, localizer, and marker beacon to aid pilots during approach and landing phases. The glideslope element is crucial as it indicates the vertical descent angle required to reach the runway at the proper touchdown point, ensuring safe and precise landings. The localizer provides lateral guidance, helping the pilot align the aircraft with the centerline of the runway. The marker beacon serves as an additional navigational aid, indicating specific points along the approach path, such as the final approach fix. This combination of information significantly enhances situational awareness during critical phases of flight, promoting safety and operational efficiency. Other possible options include elements that might be beneficial in flight but do not directly pertain to the specific functions of the EFIS approach mode. For instance, while heading and altitude are important for general flight operations, they are not uniquely associated with the approach mode of EFIS. Thus, they would not accurately represent the enhanced capabilities provided by this mode.

5. Which components provide enhanced bird strike protection in the aircraft?

- A. Windscreen and tail assembly**
- B. Windscreen and front cockpit transparency**
- C. Wing structure and propeller**
- D. Canopy and fuselage**

The components that provide enhanced bird strike protection in the aircraft include the windscreen and front cockpit transparency. The windscreen is designed to withstand impacts from birds, which can occur during takeoff, landing, or low-speed flight. It is made of materials that offer improved strength and resistance to penetration, helping to ensure the safety of the pilots in the cockpit. Additionally, the front cockpit transparency, which refers to the clear areas of the cockpit that allow visibility to the pilots, is also engineered to provide a similar level of protection. This is crucial in maintaining the pilot's ability to operate the aircraft safely during critical phases of flight when the risk of bird strikes is higher. The other options may contain components that are important in their own rights but do not primarily focus on the specific protection against bird strikes that the windscreen and front cockpit transparency are designed to provide.

6. What should be monitored when using the hydraulic systems on the aircraft?

- A. Voltage levels**
- B. Fluid levels and pressure**
- C. Temperature settings**
- D. Fuel capacity**

When operating the hydraulic systems on an aircraft, it is crucial to monitor fluid levels and pressure. The hydraulic system relies on fluid to transmit power to various components such as landing gear, flaps, and brakes. Maintaining the appropriate fluid levels ensures that the system can function properly and efficiently. Insufficient fluid can lead to inadequate pressure, which might compromise the operation of critical systems and could potentially lead to system failure. Additionally, monitoring fluid pressure is essential. If the pressure is too low, it can indicate leaks or other malfunctions within the system. Conversely, excessively high pressure could indicate a blockage or malfunction as well, which could lead to failure. Therefore, ensuring that both fluid levels and pressure are within the specified limits is vital for the safety and reliability of the aircraft's hydraulic systems. Monitoring other options like voltage levels or temperature settings is not directly related to the hydraulic systems and would pertain more to electrical systems or thermal management, respectively. Fuel capacity, while critical for overall aircraft operations, does not affect the hydraulic systems directly.

7. True or False: The T-6A air conditioning system is electrically operated and available when electrical power is applied to the aircraft.

A. True

B. False

C. Only available during ground operations

D. Requires external power

The correct answer is that the T-6A air conditioning system is not electrically operated and therefore not available merely with electrical power applied to the aircraft. The air conditioning system requires the operation of the engine-driven pneumatic system to function, which indicates that it relies on engine bleed air rather than solely on electrical power. This highlights that while electrical power is essential for various systems in the T-6A, the air conditioning system specifically operates through a different mechanism tied to the aircraft's engine rather than being fully electrical. Hence, it won't function if the engine is not running, which underscores the need for engine operation in conjunction with electrical power for the air conditioning system to be functional.

8. Which type of communication system is primarily associated with Guard receivers?

A. VHF systems

B. UHF systems

C. HF systems

D. Satellite systems

The communication system primarily associated with Guard receivers is UHF systems. These systems utilize specific frequencies designated for emergency frequencies and vital communications only available within the ultra-high frequency range. Guard receivers are designed to monitor these frequencies continuously, ensuring that any emergency communication or alert can be received promptly, which is crucial for aviation safety. UHF systems, particularly, are well-suited for this role since they are extensively used in military applications and have the bandwidth necessary for clear communications over various distances. They provide a reliable means of ensuring that aircraft can maintain contact with air traffic control during emergencies or unusual situations. Other types of systems like VHF, HF, and Satellite systems do have their own communication capabilities and applications, but they don't share the same emphasis on emergency communication in the context of Guard receivers. VHF systems are commonly used for routine communications, while HF systems are better for long-range communications. Satellite systems are primarily used for global communications and have a different operational focus than Guard receivers.

9. What is the primary function of the emergency landing gear extension handle?

- A. It activates the emergency system**
- B. It releases the landing gear locks**
- C. It charges the hydraulic accumulator**
- D. It signals the gear position**

The primary function of the emergency landing gear extension handle is to activate the emergency system for extending the landing gear. When the landing gear cannot be lowered using the normal hydraulic system—due to a failure or malfunction—pulling this handle allows pilots to manually extend the landing gear. This action typically involves redirecting the hydraulic pressure or mechanisms designed specifically for emergency scenarios, ensuring that the aircraft can safely land. While other functions related to landing gear exist, such as releasing locks or charging systems, they do not encompass the primary purpose of the emergency landing gear extension handle in the context of ensuring safe aircraft operation in an emergency. The handle is specifically designed to enable the gear to deploy when regular systems are compromised.

10. Standby instruments are generally powered by which source?

- A. AC power supply**
- B. Main battery**
- C. Battery bus**
- D. Alternator**

Standby instruments are generally powered by the battery bus. This is crucial because in the event of primary electrical system failure, standby instruments need to remain operational to provide essential flight information to the pilot. The battery bus ensures a reliable power source since it is designed to maintain power to critical instruments when the main power supplies might be compromised. Using the battery bus allows for continuous operation of essential instruments without depending on the main power system, which could fail due to various reasons like generator failure or electrical system malfunctions. This redundant power source is a safety feature, ensuring that pilots have access to backup instruments that are vital for flight safety and decision-making in emergencies. Other sources like the AC power supply and alternator are typically involved in the primary systems and may not be available during failure scenarios, while the main battery could be used in certain situations, it is the battery bus that is specifically designated for standby instruments to guarantee they remain powered independently of the primary system.