

Instrument Rating Ground 28 Doc Practice Exam (Sample)

Study Guide



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SAMPLE

Questions

- 1. What should a pilot include when reporting to ATC?**
 - A. ATPATETA (name of next succeeding point)**
 - B. Flight number and destination airport**
 - C. Last known altitude and speed**
 - D. Estimated time to next waypoint**
- 2. What is the High Surface Volume in meteorological terms?**
 - A. 50NM**
 - B. 100NM**
 - C. 130NM**
 - D. 150NM**
- 3. What action should a pilot take during a loss of communications when under IMC?**
 - A. Continue to destination without deviation**
 - B. Return to the departure airport**
 - C. Follow the last clearance received**
 - D. Engage autopilot and wait for communication**
- 4. What is an important non-flying action when encountering a thunderstorm?**
 - A. Continue straight in to the destination**
 - B. Keep eyes on instruments**
 - C. Change course randomly**
 - D. Reduce altitude drastically**
- 5. Which of the following is a requirement when cleared for the approach?**
 - A. The aircraft must attain cruising altitude**
 - B. Turn off all non-essential systems**
 - C. Commence descent as per approach clearance**
 - D. Fly at minimum altitude**

- 6. What navigation aid helps to identify the FAF in a Non-Precision Approach?**
- A. Glideslope**
 - B. Maltese cross**
 - C. Distance measuring equipment**
 - D. Localizer**
- 7. What is the MDA for KIWA ILS?**
- A. 1500 ft**
 - B. 2020 ft**
 - C. 2500 ft**
 - D. 1800 ft**
- 8. While enroute to KCHD, if you lose communications in IMC approaching POPKE, what should you do?**
- A. Return to the last fix**
 - B. Enter a holding pattern**
 - C. Direct an Initial Approach Fix (IAF)**
 - D. Proceed to the destination without a plan**
- 9. Which item does NOT allow you to descend below minimums on an approach?**
- A. Control tower**
 - B. Taxiway lights**
 - C. Runway lights**
 - D. Taxiway markings**
- 10. Can you conduct an Instrument Proficiency Check (IPC) in an Advanced Aviation Training Device (AATD)?**
- A. No, it must be done in a full-motion simulator**
 - B. Yes, without any conditions**
 - C. Yes, but only with a Letter of Authorization present**
 - D. No, it must be done in an actual aircraft**

Answers

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

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Explanations

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1. What should a pilot include when reporting to ATC?

A. ATPATETA (name of next succeeding point)

B. Flight number and destination airport

C. Last known altitude and speed

D. Estimated time to next waypoint

When reporting to Air Traffic Control (ATC), clarity and precision are crucial in ensuring effective communication and safety in the airspace. Including the name of the next succeeding point is important because it provides ATC with specific information about the aircraft's intended route and allows them to monitor and manage traffic more efficiently. This detail facilitates situational awareness for both the pilot and ATC, contributing to overall flight safety and coordination. While other elements like flight number and destination, last known altitude and speed, and estimated time to the next waypoint are all important components of a comprehensive report to ATC, the specific mention of the succeeding waypoint enhances navigational clarity by confirming that the pilot is following an established flight path. This helps ATC provide appropriate separation from other air traffic, making the inclusion of the next succeeding point particularly valuable.

2. What is the High Surface Volume in meteorological terms?

A. 50NM

B. 100NM

C. 130NM

D. 150NM

In meteorological terms, the High Surface Volume refers to the area surrounding a high-pressure system where significant weather influences can be detected. This typically extends outward to about 130 nautical miles from the center of the high-pressure area. This distance is significant because it helps pilots and meteorologists understand the extent of the high-pressure influence on weather patterns, such as stability and the potential for fair weather. This 130 nautical mile range is crucial for flight planning and weather assessments, as it indicates the reach of the high-pressure system's effects on cloud formation, wind patterns, and visibility. Understanding the High Surface Volume assists pilots in making informed decisions about flight routes and weather conditions they may encounter during their flight.

3. What action should a pilot take during a loss of communications when under IMC?

- A. Continue to destination without deviation**
- B. Return to the departure airport**
- C. Follow the last clearance received**
- D. Engage autopilot and wait for communication**

In the event of a loss of communications while operating in Instrument Meteorological Conditions (IMC), the pilot should follow the last clearance received from Air Traffic Control. This action is appropriate because it allows the pilot to maintain a safe and compliant flight path. By adhering to the last instructions given, the pilot can remain aware of any traffic control measures that were in place and ensure that they are not entering controlled airspace without proper authority. Following the last clearance helps in avoiding potential conflicts with other aircraft and ensures that the flight continues in an organized manner within the air traffic system. Additionally, the pilot can proceed to the next expected fix, route, or altitude as indicated in that clearance, thereby maintaining situational awareness and safety. It's important to understand that simply continuing to the destination without deviation, returning to the departure airport, or engaging the autopilot and awaiting communication do not provide the same level of adherence to safety regulations and situational control. Each of those options could result in entering restricted airspace, creating confusion for ATC, or potentially endangering the safety of the flight and others. Thus, following the last clearance received stands as the most responsible and safety-conscious action to take in this scenario.

4. What is an important non-flying action when encountering a thunderstorm?

- A. Continue straight in to the destination**
- B. Keep eyes on instruments**
- C. Change course randomly**
- D. Reduce altitude drastically**

Keeping your eyes on the instruments is an essential non-flying action when encountering a thunderstorm because adverse weather conditions can severely impair visual references and create a hazardous flying environment. In a thunderstorm, the likelihood of strong turbulence, hail, lightning, and reduced visibility increases significantly, making it critical for pilots to rely on their instruments to maintain situational awareness and control of the aircraft. By focusing on the instruments, a pilot can monitor altitude, attitude, airspeed, and other critical flight parameters, ensuring that they maintain control during potential turbulence and adverse weather conditions. Utilizing instruments allows the pilot to respond appropriately to sudden changes in aircraft performance or external environment without the distraction of trying to see outside, where conditions may be too severe. In contrast, other actions, such as continuing straight to the destination, changing course randomly, or reducing altitude drastically, may not be safe or effective responses to a thunderstorm. Each of these options could lead to increased risk or loss of control in such a challenging flying situation.

5. Which of the following is a requirement when cleared for the approach?

- A. The aircraft must attain cruising altitude**
- B. Turn off all non-essential systems**
- C. Commence descent as per approach clearance**
- D. Fly at minimum altitude**

When cleared for the approach, the requirement is to commence descent as per the approach clearance. This means that once air traffic control has provided the necessary instructions for the approach, the pilot must begin to descend in accordance with the specified altitudes and any other instructions included in that clearance. This is critical for maintaining the proper flight path and ensuring safe separation from other aircraft and terrain. The approach clearance typically includes specific altitudes and waypoints that the pilot is expected to adhere to, so commencing the descent in a timely manner is essential to ensuring compliance with those parameters and facilitates a smooth transition to landing. The other options, while they may have relevance in different contexts, do not specifically address the actions mandated by an approach clearance. Attaining cruising altitude, for instance, is more relevant during the en route phase of flight rather than the approach phase. Turning off non-essential systems might be prudent for safety but is not a requirement directly tied to approach clearance. Flying at minimum altitude is also a consideration but is contingent on the specific approach procedures rather than a blanket requirement upon receiving the clearance.

6. What navigation aid helps to identify the FAF in a Non-Precision Approach?

- A. Glideslope**
- B. Maltese cross**
- C. Distance measuring equipment**
- D. Localizer**

The identification of the Final Approach Fix (FAF) in a Non-Precision Approach is primarily indicated by a visual symbol known as the Maltese cross. This symbol appears on approach charts to denote the point where the final approach segment starts. It is crucial for pilots to recognize the FAF as it signifies the transition from the en route structure to the final approach procedure, where the aircraft will begin its descent towards the runway. In Non-Precision Approaches, where there is no electronic glide slope guidance or precision lateral guidance, the Maltese Cross serves as a visual reference that assists pilots in managing their descent and aligning the aircraft with the runway. Other options listed, such as glideslope, distance measuring equipment, and localizer, are more related to Precision Approaches. A glideslope provides vertical guidance which is not available in non-precision approaches, while the localizer primarily offers lateral navigation guidance for precision approaches. Distance measuring equipment can be useful, but it does not specifically denote the FAF in non-precision approaches, making the Maltese cross the correct reference for this situation.

7. What is the MDA for KIWA ILS?

- A. 1500 ft
- B. 2020 ft**
- C. 2500 ft
- D. 1800 ft

The Minimum Descent Altitude (MDA) for an Instrument Landing System (ILS) approach at the KIWA airport is set at 2020 feet. This altitude is critical for ensuring safe and reliable descent during an approach, especially in overcast, low visibility, or instrument meteorological conditions. The MDA is determined based on several factors, including the type of approach, terrain elevation, and obstacle clearance requirements surrounding the airport. At KIWA, the published MDA of 2020 feet allows pilots to maintain a standard margin of safety above the highest terrain and any obstructions, thus facilitating a safe landing procedure if the decision to land should be made at that altitude. Pilots must be aware of this altitude in their flight operations, particularly during approach and landing preparations, ensuring that they comply with the prescribed limits to guarantee safety.

8. While enroute to KCHD, if you lose communications in IMC approaching POPKE, what should you do?

- A. Return to the last fix
- B. Enter a holding pattern
- C. Direct an Initial Approach Fix (IAF)**
- D. Proceed to the destination without a plan

When approaching POPKE in IMC (Instrument Meteorological Conditions) and losing communications, the appropriate action is to proceed to the Initial Approach Fix (IAF) for your planned approach to KCHD. This option is based on established procedures for lost communications during instrument flight operations. In this situation, the pilot should follow the route as indicated on the navigation charts while proceeding to the IAF, which is designed to assist in the transition to the final approach. This approach ensures the pilot can maintain safe and controlled navigation, utilizing the existing air traffic control procedures that account for lost communications. The other options, while they may seem reasonable at first glance, do not align with standard operating procedures in instances of lost communications. For example, returning to the last fix might lead the aircraft away from the intended destination, creating confusion and potential air traffic conflicts. Entering a holding pattern without a communications plan could also lead to complications, as it can be challenging to effectively manage holding patterns without knowing air traffic control's intentions. Proceeding to the destination without a plan not only jeopardizes the safety of the flight but also goes against the structured approach required during IFR operations. Thus, navigating towards the IAF provides a clear and methodical path forward following the loss of

9. Which item does NOT allow you to descend below minimums on an approach?

- A. Control tower**
- B. Taxiway lights**
- C. Runway lights**
- D. Taxiway markings**

In the context of instrument approaches, descending below minimums is strictly regulated to ensure safety. In this scenario, the control tower is not an item that would permit a pilot to descend below the established minimums on an approach. The approach minimums are predetermined altitudes or visual references that indicate the lowest altitude at which a safe landing can be attempted. The presence of a control tower does not provide any additional authority or information that would justify descending below these minimums. Conversely, taxiway lights and runway lights, as well as taxiway markings, serve specific purposes that can enhance the pilot's situational awareness and might contribute to visual references necessary for decision-making during an approach. For instance, illuminated runway edge lights or threshold lights may assist in confirming the runway's location and assist in deciding to continue descent, assuming that the minimums have been met. However, these elements do not change the regulatory requirement that governs minimum descent altitudes; only specific conditions or visual references defined in the approach procedure can allow for descent below minimums.

10. Can you conduct an Instrument Proficiency Check (IPC) in an Advanced Aviation Training Device (AATD)?

- A. No, it must be done in a full-motion simulator**
- B. Yes, without any conditions**
- C. Yes, but only with a Letter of Authorization present**
- D. No, it must be done in an actual aircraft**

Conducting an Instrument Proficiency Check (IPC) in an Advanced Aviation Training Device (AATD) is permissible, but specific conditions must be met. The requirement for a Letter of Authorization is crucial because it provides a clear indication that the AATD is approved for use in conducting IPCs. This authorization underscores that the training device meets certain standards and has been vetted for this particular use. Using an AATD for IPCs is beneficial as it allows pilots to maintain their instrument flying skills in a realistic environment that simulates the experience of flying an aircraft. However, the need for a Letter of Authorization ensures that the check is administered in a manner that complies with regulatory standards, assuring both the quality of the training and the safety of the operation. Thus, the inclusion of this requirement reflects an understanding of regulatory compliance and operational safety in instrument training.