

# Private Oral Questions (PTS)

## I. AREA OF OPERATION: PREFLIGHT PREPARATION

### A. TASK: CERTIFICATES AND DOCUMENTS

REFERENCES: 14 CFR parts 43, 61, 91; AC 61-21, AC 61-23; Balloon Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to certificates and documents by explaining the appropriate-
  - a. pilot certificate privileges and limitations.
  - b. medical statement.
  - c. pilot logbook or flight record, required entries.
2. Exhibits knowledge of the elements related to certificates and documents by locating and explaining the-
  - a. airworthiness and registration certificates.
  - b. operating limitations, placards, instrument markings, handbooks, and manuals.
  - c. weight data, including the equipment list as appropriate.
  - d. airworthiness directives and compliance records, maintenance/inspection requirements and appropriate records.

### B. TASK: WEATHER INFORMATION

REFERENCES: AC 00-6, AC 00-45, AC 61-23, AC 61-84; AIM.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to weather information by analyzing weather reports and forecasts from various sources with emphasis on-
  - a. surface wind.
  - b. winds aloft.
  - c. wind shear.
  - d. PIREP's.
  - e. SIGMET's and AIRMET's.
2. Exhibits knowledge of the elements related to weather information by explaining various atmospheric conditions, and their effect on balloon flight, including-
  - a. temperature and pressure variations.
  - b. atmospheric stability.
  - c. cloud formations.
  - d. thunderstorms and associated turbulence.
  - e. thermals.
  - f. land and sea or lake breezes.
  - g. orographic winds.
3. Makes a competent "go/no-go" decision based on available weather information.

### C. TASK: FLIGHT PLANNING

REFERENCES: AC 61-21, AC 61-23, AC 61-84; Navigation Charts; NOTAM's; Airport/Facility Directory; AIM.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to flight planning by presenting and explaining a preplanned flight of maximum duration, appropriate to the balloon used for the flight test, as previously assigned by the examiner. The final flight plan shall include real-time weather.
2. Uses appropriate, current aeronautical charts and appropriate, current local road/street maps.
3. Plots a course for the intended route of flight based on the winds aloft forecast.
4. Selects the appropriate VHF communication frequencies, if radio equipped.
5. Identifies airspace, obstructions, and terrain features.
6. Selects suitable landing areas.
7. Extracts and applies pertinent information from NOTAM's, Airport/Facility Directory, and AIM as necessary.

### D. TASK: NATIONAL AIRSPACE SYSTEM

REFERENCES: 14 CFR part 91; Navigation Charts; AIM.

Objective. To determine that the applicant exhibits knowledge of the elements related to the National Airspace System by explaining:

1. Basic VFR Weather Minimums - for all classes of airspace.
2. Airspace classes - their boundaries, pilot certification, and equipment requirements for the following-
  - a. Class A.
  - b. Class B.
  - c. Class C.
  - d. Class D.
  - e. Class E.
  - f. Class G.
3. Special use airspace and other airspace areas.

### E. TASK: PERFORMANCE AND LIMITATIONS

REFERENCES: AC 61-21, AC 61-23, AC 61-84, AC 91-23; Balloon Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to performance and limitations by explaining the use of appropriate data, if available from the manufacturer, to determine performance. This shall include operational characteristics and loading, and the adverse effects of exceeding limitations.

2. Computes operating weight, maximum load, and expected envelope temperature, as related to maximum envelope temperature.
3. Determines balloon performance, considering density altitude, wind, other weather related conditions, and terrain.
4. Determines normal and maximum rates of ascent and descent, and the altitude required to arrest high rates of descent.
5. Determines envelope temperatures, including never-exceed temperature and maximum continuous temperature, if appropriate.
6. Determines whether the computed performance is within the balloon's capabilities and operating limitations.

#### F. TASK: OPERATION OF SYSTEMS

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to the operation of systems on the balloon provided for the practical test by explaining the following:

1. Fuel system and associated gauges.
2. Venting and/or deflation systems.
3. Flight instruments and gauges.
4. Avionics/communications system, as appropriate.

#### G. TASK: AEROMEDICAL FACTORS

REFERENCES: AC 61-21; AIM.

Objective. To determine that the applicant exhibits knowledge of the elements related to aeromedical factors by explaining:

1. The symptoms, causes, effects, and corrective actions of at least three of the following-
  - a. hypoxia.
  - b. hyperventilation.
  - c. middle ear and sinus problems.
  - d. spatial disorientation.
  - e. stress and fatigue.
2. The effects of alcohol and drugs, including over-the-counter drugs.
3. The effects of nitrogen excesses during scuba dives upon a pilot and/or passenger in flight.

#### E. TASK: HIGH-WIND LANDING

NOTE: If a high-wind condition does not exist, the applicant's knowledge of the TASK shall be evaluated through oral testing.

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to a high-wind landing.
2. Identifies hazards associated with a high-wind landing.
3. Prepares vent/deflation system for use.
4. Uses burner controls and vent/deflation system to land the balloon and control ground travel.
5. Touches down within the designated area or aborts the landing and ascends as specified by the examiner.
6. Extinguishes pilot lights at the appropriate time.
7. Completes the appropriate checklist.

#### F. TASK: TETHERING

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to tethering by explaining:

1. The proper recognition of wind conditions and obstructions.
2. The recognition of the effects of false lift and wind gusts.
3. The recommended tethering procedure with emphasis on utilizing an adequate number of appropriate tether lines of adequate strength, in the proper location.
4. The briefing for ground crewmembers, to include crowd control.

#### G. TASK: WINTER FLYING

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to winter flying by explaining:

1. The proper preparation, equipment, and survival supplies necessary for flight in cold temperatures.
2. The proper methods for pressurizing fuel tanks.
3. The added concerns for fuel vaporization, leaks, and risk of fire during cold weather.

#### H. TASK: MOUNTAIN FLYING

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to mountain flying by explaining:

1. The proper preparation, equipment, and survival supplies necessary for flight over mountainous terrain.
2. The accessibility to landing areas.
3. The recognition of cloud formations and descending air currents on the leeward side of mountains as evidence of possible turbulence.
4. The caution required in regard to windshear encounters and possible rapid weather changes.

## **VII. AREA OF OPERATION: EMERGENCY OPERATIONS**

### **A. TASK: SYSTEMS AND EQUIPMENT MALFUNCTIONS**

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to systems and equipment malfunctions appropriate to the balloon used for the practical test.
2. Analyzes the situation and takes the appropriate action for simulated emergencies, such as-
  - a. pilot light flameout or failure.
  - b. blast valve failure.
  - c. fuel exhaustion.
  - d. propane leak.
  - e. envelope failure.
  - f. any other systems and equipment malfunction appropriate to the balloon provided for the flight test.
3. Follows the appropriate emergency checklist.

### **B. TASK: EMERGENCY EQUIPMENT AND SURVIVAL GEAR**

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to emergency equipment and survival gear appropriate to the balloon provided for the practical test, such as-
  - a. location and purpose.
  - b. method of operation or use.
  - c. servicing requirements.
  - d. method of safe storage.
  - e. equipment and survival gear appropriate for operation in various climates and topographical environments.
2. Follows the appropriate emergency checklist.

C. TASK: WATER LANDING

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to a water landing by explaining:

1. The emergency conditions under which water landings are necessary.
2. The effect of wind direction and speed, and water current.
3. The preparation required for contact with water, to include briefing passengers.
4. The procedure to be used for actual water landing.

D. TASK: THERMAL FLIGHT

REFERENCE: Balloon Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to thermal flight by explaining:

1. The conditions that cause thermal activity.
2. The recognition of convective conditions and associated hazards.
3. The effects of thermal activity on balloon flight.
4. The procedures to be used upon encountering thermal activity.

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Flight Service station (Utah) phone number 1-800-992-7433 (or 866-667-3858 direct)  
Introduce yourself as "Hot Air Balloon" N5123P

Ask for the following winds (tomorrow or today) at 1400Z:

Actual surface winds in SLC

Forecasted surface winds in SLC

Forecasted winds in Provo

Winds Aloft forecast through 12,000 feet:	Direction	Speed in knots
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6k

9k

12k

Ask for a "Synopsis" for the area.