SESSION 80: MIXED SCENARIO — FULL CHECKRIDE SIMULATION: PREFLIGHT THROUGH APPROACH

Scenario thread: You are flying N219MT IFR from KABC to KXYZ. The DPE works the flight from planning through the arrival approach.

1. Planning the flight, you review a METAR at KXYZ reporting a 600-foot ceiling and 2 SM visibility. For the destination, this is:

A. Always above minimums

B. VFR

C. Below VFR but possibly workable for an instrument approach — you check the approach minimums

D. A no-go regardless

2. Determining whether an alternate is required, you apply the 1-2-3 rule: an alternate is required if, from 1 hour before to 1 hour after the ETA, the forecast is below:

A. A 2,000-foot ceiling or 3 SM visibility

B. A 1,000-foot ceiling or 3 SM

C. A 500-foot ceiling or 1 SM

D. VFR

3. Your planned alternate must have forecast weather at or above its alternate minimums, which for a non-precision approach are typically:

A. 600-1

B. 800-2 always

C. A 1,000-foot ceiling

D. An 800-foot ceiling and 2 SM visibility (precision is typically 600-2; non-precision 800-2 absent other specification)

4. Computing fuel, IFR rules require enough to reach the destination, then the alternate (if required), then fly for:

A. 30 minutes

B. 60 minutes

C. 15 minutes

D. 45 minutes at normal cruise

5. You receive your clearance: "Cleared to KXYZ as filed, climb and maintain 5,000, expect 9,000 ten minutes after departure, departure frequency 124.3, squawk 4271." You copy this using:

A. ATIS

B. PIREP

C. CRAFT (Clearance limit, Route, Altitude, Frequency, Transponder)

D. GRABCARD

6. Before departure in IMC, you review the departure airport's procedures and find a published ODP. As a Part 91 operator, you:

A. Must always fly a SID

B. Cannot depart IFR

C. Should consider and fly the ODP for obstacle clearance, even without a specific ATC clearance

D. Ignore it

7. The ODP requires a climb gradient of 250 ft/NM. At a groundspeed of 100 knots (1.67 NM/min), your required climb rate is about:

A. 250 fpm

B. 418 fpm (250 × 1.67)

C. 600 fpm

D. 1,000 fpm

8. After departure, ATC clears you to climb to 9,000. Passing through 18,000 would require setting the altimeter to 29.92, but at 9,000 you keep:

A. 29.92

B. The field elevation

C. The standard datum

D. The local altimeter setting

9. En route, ATC says "N219MT, cross WAYPT at or above 7,000." This crossing restriction requires you to be:

A. At exactly 7,000

B. Below 7,000

C. At or above 7,000 crossing WAYPT

D. At 7,000 after the waypoint

10. ATC then issues a holding clearance at a fix on a radial that places you on the holding side with the inbound course requiring a teardrop entry. A teardrop entry is appropriate when the holding fix is approached:

A. From within roughly 30 degrees of the outbound course on the holding side

B. From the direct-entry sector

C. From the parallel sector

D. Head-on

11. While holding, you receive "Expect further clearance at 1545." This EFC time tells you:

A. To leave immediately

B. The squawk code

C. The frequency

D. When to expect onward clearance (and, if lost comm, when to depart the fix)

12. Cleared out of holding and toward the arrival, ATC says "descend via the BRAVO ONE arrival." This authorizes you to:

A. Descend to comply with all published altitude (and speed) restrictions on the STAR

B. Maintain your altitude

C. Descend at will ignoring restrictions

D. Climb to the top of the STAR

13. A STAR crossing restriction shows "cross FIXX at 250K." Below 10,000 feet, you must observe both this and the regulatory limit, so your maximum speed is:

A. 280 knots

B. 250 knots or less (the published 250K and the regulatory 250-below-10,000 both apply)

C. 200 knots

D. 230 knots

14. Approaching KXYZ, you brief the ILS RWY 9 approach. The briefing covers the frequencies, courses, altitudes, minimums, and the:

A. Missed approach procedure

B. Cruise fuel

C. Departure weather

D. En route winds

15. You verify the loaded approach matches the clearance by confirming the:

A. Approach name/runway and that the localizer is tuned and identified

B. Cruising altitude

C. Transponder code

D. Departure frequency

16. ATC vectors you to intercept the localizer. You establish on the:

A. Glideslope first

B. Missed approach track

C. Circling area

D. Localizer course, then intercept the glideslope from below at the published altitude

17. Established on the glideslope, you control the descent rate primarily with:

A. The localizer needle

B. Pitch, supported by power, to keep the glideslope centered

C. Bank angle

D. The heading indicator

18. At a groundspeed of 90 knots, your approximate 3-degree glideslope descent rate is about:

A. 900 fpm

B. 300 fpm

C. 250 fpm

D. 450 fpm (90 × 5)

19. You reach the DA. The runway environment is in sight and you are positioned for a normal descent, and the flight visibility meets the prescribed minimum. Under §91.175 you may:

A. Level off

B. Go missed

C. Continue the descent to land

D. Circle

20. Had you reached the DA with nothing in sight, you would:

A. Descend to find the runway

B. Level off

C. Execute the missed approach

D. Circle

21. The published missed approach turn would be commenced:

A. At the DA

B. At the missed approach point

C. At the FAF

D. Over the runway

22. Throughout the descent and approach, your altimeter setting must be:

A. 29.92

B. The current local setting, to ensure correct altitudes and crossing restrictions

C. The departure setting

D. The standard datum

23. Your overriding priority throughout every phase of this flight is to:

A. Aviate (fly the aircraft), then navigate, then communicate

B. Communicate first

C. Navigate before flying

D. Configure first

24. Good single-pilot resource management throughout the flight includes:

A. Ignoring checklists

B. Rushing the approach

C. Managing workload, using checklists, briefing in advance, and maintaining situational awareness

D. Disregarding ATC

25. The fundamental principle this full scenario tests is that the instrument pilot must:

A. Memorize one procedure

B. Integrate planning, regulations, clearances, navigation, and the approach into a single, well-managed IFR flight flown to standards

C. Rely on the autopilot

D. Fly only in VFR

ANSWER KEY & EXPLANATIONS — SESSION 80

1. C. Below VFR/check minimums — A 600/2 destination is below VFR but possibly workable for an instrument approach; the pilot checks the approach minimums.

2. A. 2,000/3 — Under the 1-2-3 rule, an alternate is required if, from 1 hour before to 1 hour after the ETA, the forecast is below a 2,000-foot ceiling or 3 SM visibility.

3. D. 800-2 / 600-2 — The alternate must have forecast weather at or above its alternate minimums (typically precision 600-2, non-precision 800-2, absent other specification).

4. D. 45 minutes — IFR fuel requires destination, then alternate (if required), then 45 minutes at normal cruise.

5. C. CRAFT — The clearance is copied using CRAFT (Clearance limit, Route, Altitude, Frequency, Transponder).

6. C. Fly the ODP — As a Part 91 operator, the pilot should consider and fly the published ODP for obstacle clearance, even without a specific ATC clearance.

7. B. ~418 fpm — 250 ft/NM × 1.67 NM/min (100 kt) ≈ 418 fpm.

8. D. Local setting — At 9,000 feet (below 18,000), the altimeter is set to the local altimeter setting.

9. C. At or above 7,000 — "Cross at or above 7,000" requires being at or above 7,000 crossing the waypoint.

10. A. ~30° on holding side — A teardrop entry is appropriate when approaching from roughly within 30 degrees of the outbound course on the holding side.

11. D. Expect onward clearance — An EFC time tells when to expect onward clearance (and, if lost comm, when to depart the fix).

12. A. Comply with restrictions — "Descend via the arrival" authorizes descending to comply with all published altitude (and speed) restrictions.

13. B. 250 or less — Below 10,000 feet, both the published 250K and the regulatory 250-below-10,000 apply, so the maximum is 250 knots or less.

14. A. Missed approach — The approach briefing covers the frequencies, courses, altitudes, minimums, and the missed approach procedure.

15. A. Name/navaid match — The loaded approach is verified by confirming the name/runway and that the localizer is tuned and identified.

16. D. Localizer then GS from below — The pilot establishes on the localizer course, then intercepts the glideslope from below at the published altitude.

17. B. Pitch + power — The descent rate on the glideslope is controlled primarily with pitch, supported by power.

18. D. ~450 fpm — At 90 knots, the 3-degree descent rate is about 90 × 5 = 450 fpm.

19. C. Continue to land — At the DA with the runway in sight, positioned for a normal descent, and the flight visibility meeting the minimum, the pilot may continue the descent to land.

20. C. Missed approach — At the DA with nothing in sight, the pilot executes the missed approach.

21. B. At the MAP — The published missed approach turn is commenced at the missed approach point.

22. B. Local setting — The altimeter setting must be the current local setting to ensure correct altitudes and crossing restrictions.

23. A. Aviate/navigate/communicate — The overriding priority throughout is to aviate (fly the aircraft), then navigate, then communicate.

24. C. Manage/checklist/brief/SA — Good single-pilot resource management includes managing workload, using checklists, briefing in advance, and maintaining situational awareness.

25. B. Integrate the whole flight — The scenario tests integrating planning, regulations, clearances, navigation, and the approach into a single, well-managed IFR flight flown to standards.