PRACTICE EXAM 30 (60 QUESTIONS)

1. Two forecasts cover your destination ETA window: one shows 1,900 feet and 3 miles, the other 2,100 feet and 3 miles. For the alternate decision under the standard rule, how should you treat this?

A. Treat the conditions as below the 1-2-3 threshold and file an alternate

B. Average the two ceilings to 2,000 feet and skip the alternate entirely

C. Use only the more favorable forecast and skip filing an alternate

D. Disregard both forecasts since they conflict and file under VFR instead

2. You are issued a clearance to "maintain 5,000, expect 9,000 ten minutes after departure." You lose radios in IMC immediately after takeoff. At what altitude do you fly the initial climb segment?

A. 5,000 feet until ten minutes elapse, then climb to 9,000 as expected

B. 9,000 feet immediately since that is the expected final altitude

C. The minimum en route altitude for the first segment regardless of clearance

D. The highest of the route's MEAs disregarding the assigned altitude

3. On a non-precision approach with a published VDP, you reach the MDA well before the VDP with the runway in sight. What is the best practice?

A. Begin an immediate descent to the runway since it is now in sight

B. Descend below the MDA at once because visual contact was established

C. Maintain the MDA until reaching the VDP, then begin a normal descent

D. Execute the missed approach since reaching the MDA early is abnormal

4. A LOC-only approach and an ILS to the same runway have different minimums. The glide slope is working but you elect to fly it as a localizer approach. Which minimums apply?

A. The ILS decision altitude since the glide slope is fully functional

B. Either set of minimums at the pilot's discretion during the approach

C. The localizer non-precision minimums consistent with how it is flown

D. The circling minimums because no vertical guidance is being used

5. During a coupled approach, you notice the autopilot is tracking slightly right of the localizer centerline but holding steady. The needle shows a small left deflection. What is the most likely explanation?

A. The localizer signal has failed and the needle is now unreliable

B. The autopilot has captured the back course and is reverse sensing

C. A right crosswind is being countered, with the autopilot on centerline

D. The autopilot is holding a heading offset, drifting from the course

6. You are planning fuel for an IFR flight requiring an alternate. The destination leg burns 30 gallons, the alternate leg 12 gallons, and your aircraft burns 12 gph. What is the minimum legal fuel?

A. 42 gallons covering the destination and the alternate legs only

B. 51 gallons including the destination, alternate, and 45-minute reserve

C. 48 gallons covering the destination plus a 45-minute reserve only

D. 54 gallons including a full one-hour reserve beyond the alternate

7. An aircraft is established on a 10 DME arc and the pilot wants to intercept a radial leading to the final approach course. What chart feature signals when to begin the turn?

A. The intermediate fix altitude published on the approach plate

B. The minimum safe altitude circle depicted on the chart

C. The lead radial depicted before the desired course change

D. The visual descent point marked on the final approach segment

8. You receive "cross BAYLR at and maintain 7,000, then as filed." You are at 11,000, 30 NM from BAYLR, groundspeed 150 knots. To descend at 500 fpm, when should you start down?

A. Immediately, since 11,000 to 7,000 always requires a long descent

B. At 20 NM from BAYLR to allow a comfortable margin for the descent

C. About 20 NM out, where 8 minutes of descent matches the distance

D. At BAYLR itself, descending rapidly after crossing the fix inbound

9. During cruise, your suction gauge reads normal but the heading indicator has drifted 20 degrees from the compass over ten minutes. What is the most likely cause?

A. A failing vacuum pump despite the normal suction indication

B. A blocked static port affecting the gyroscopic heading reference

C. Magnetic interference from the aircraft's electrical system

D. Normal gyroscopic precession requiring a routine realignment

10. You are cleared for an RNAV approach with LPV minimums but your WAAS receiver downgrades to LNAV/VNAV inbound. What is the practical effect?

A. The approach must be abandoned immediately upon any downgrade

B. The vertical guidance is lost entirely and only lateral remains

C. Vertical guidance continues but to higher LNAV/VNAV minimums

D. The receiver switches to an ILS frequency for the same runway

11. A pilot recognizes that accepting a slam-dunk descent will likely produce an unstabilized approach. The controller is busy and the workload is high. What is the best response?

A. Accept the descent and attempt to stabilize before the runway

B. Decline or request relief, prioritizing a stabilized approach

C. Accept it but plan to go missed at the decision altitude regardless

D. Accept it silently and increase the descent rate to comply quickly

12. Your route segment has an MEA of 7,000 and an MOCA of 5,000. You need to descend to 5,500 for icing reasons but are 30 NM from the VOR defining the segment. What is the concern?

A. The MOCA guarantees obstacle clearance and full navaid reception here

B. Navaid reception is assured only within 22 NM, so 5,500 may lose signal

C. The MEA may be ignored entirely once an icing hazard is encountered

D. Descending to the MOCA always requires a separate ATC clearance first

13. On an ILS, you observe the glide slope needle pegged full up and the localizer centered as you approach the FAF. What does this indicate?

A. The aircraft is above the glide path and the localizer is reliable

B. The glide slope has failed and the approach must become non-precision

C. The aircraft is below the glide path and should descend to capture

D. The aircraft is below the glide path with the localizer still reliable

14. A pilot logs an approach in actual IMC but goes missed before reaching the DA due to ATC instruction. Does this count toward currency?

A. Yes, if the approach was flown to the point of the ATC-directed go-around in IMC

B. No, because the approach was not flown all the way to the DA

C. Yes, but only if a second approach is completed on the same flight

D. No, because ATC instructions invalidate the approach for currency

15. You are holding and the EFC time passes with normal two-way communication still established. What should you do?

A. Depart the holding fix automatically at the EFC time as planned

B. Remain in the hold and await an actual clearance from ATC

C. Descend to the minimum holding altitude and begin the approach

D. Squawk standby and exit the holding pattern toward the destination

16. A forecast shows a temperature of −15°C at your approach altitude, well below standard. What is the effect on your true altitude at the published minimums?

A. True altitude is higher than indicated, increasing obstacle clearance

B. True altitude equals indicated altitude since the altimeter self-corrects

C. The error affects only the airspeed indicator, not altitude readings

D. True altitude is lower than indicated, reducing obstacle clearance

17. During a partial-panel approach, you must descend at a controlled rate without the attitude indicator. Which instruments best help you manage the descent?

A. The attitude indicator and heading indicator working together

B. The airspeed indicator, altimeter, and vertical speed indicator

C. The magnetic compass and the turn coordinator used together

D. The tachometer alone, adjusting power to control the descent

18. You are issued a "climb via SID" clearance, then ATC says "climb and maintain 11,000." How does the second instruction affect the SID restrictions?

A. All SID lateral routing is canceled along with the altitude restrictions

B. The SID speed restrictions remain but the lateral path is canceled

C. The published altitude restrictions are canceled; lateral path and 11,000 apply

D. The SID is unchanged and 11,000 is merely the expected final altitude

19. A pilot encounters an unexpected lowering of the freezing level during a descent in cloud. What is the most prudent action?

A. Continue the descent since ice forms only above the freezing level

B. Maintain altitude indefinitely and wait for the cloud to dissipate

C. Plan to minimize time in icing by expediting through the layer or diverting

D. Increase airspeed substantially to prevent any ice from adhering

20. On an approach, the controller assigns "maintain 250 knots or greater to the FAF." Your stabilized approach speed is far lower. What is the appropriate response?

A. Comply with 250 knots all the way to the FAF then decelerate sharply

B. Advise unable if the speed prevents a safe, stabilized approach

C. Accept the speed and configure for landing while still at 250 knots

D. Ignore the instruction since approach speed is the pilot's sole decision

21. You are flying a procedure turn and ATC has cleared you for the approach. The chart shows "NoPT" on the route you are using. What does this mean?

A. No procedure turn is to be flown when arriving via that route segment

B. A procedure turn is mandatory regardless of the arrival routing used

C. The procedure turn altitude does not apply on that particular segment

D. No published terrain clearance exists on the procedure turn course

22. A pilot must determine whether GPS may be used for an approach when RAIM is predicted unavailable for the ETA. What is the correct conclusion?

A. GPS may be used because RAIM is only advisory for approaches

B. The GPS approach should not be relied upon; plan an alternative

C. GPS may be used if a second receiver is installed in the panel

D. RAIM unavailability affects only the en route phase, not approaches

23. During an emergency descent in IMC, the pilot must select a safe altitude quickly. Which charted value best provides emergency obstacle clearance by quadrant near the airport?

A. The minimum en route altitude for the active airway segment

B. The minimum safe altitude depicted on the approach chart

C. The minimum obstruction clearance altitude along the airway

D. The decision altitude published for the precision approach

24. You are cleared for a visual approach but lose sight of the airport in haze before landing. What should you do?

A. Advise ATC immediately, as visual approach requires the airport in sight

B. Continue inbound on the last known heading until the airport reappears

C. Descend to the published instrument minimums and continue visually

D. Execute the published missed approach for the instrument procedure

25. A non-WAAS GPS aircraft files to an alternate that has only an RNAV (GPS) approach. Under the alternate planning rules, what must the pilot consider?

A. The approach must be usable with the equipment, and alternate minimums met

B. GPS approaches can never serve as the basis for a filed alternate

C. The aircraft needs an ILS at the alternate regardless of GPS capability

D. A second GPS unit is always required to file any GPS-based alternate

26. On a coupled ILS, the glide slope captures normally but the localizer begins oscillating near the runway. What is the most appropriate pilot action?

A. Increase the descent rate to reach the runway before the oscillation worsens

B. Force the autopilot to recapture the localizer repeatedly until stable

C. Be prepared to disconnect and hand-fly or go missed if it continues

D. Continue coupled to touchdown since the glide slope is still reliable

27. A pilot reviewing a SID notes a "climb gradient of 350 ft/NM to 4,000." At a groundspeed of 120 knots, what rate of climb satisfies this?

A. About 350 feet per minute to meet the published climb gradient

B. About 500 feet per minute to meet the published climb gradient

C. About 600 feet per minute to meet the published climb gradient

D. About 700 feet per minute to meet the published climb gradient

28. You are vectored across the final approach course without an approach clearance. What should you do?

A. Turn inbound onto the final approach course and begin the descent

B. Execute the missed approach since you have crossed the final course

C. Enter a hold at the nearest fix until the clearance is issued

D. Maintain the assigned heading and query ATC about the crossing

29. A pilot must decide between two alternates: one with a precision approach forecast at 700-2 and one with a non-precision approach forecast at 900-3. Standard alternate minimums are 600-2 (precision) and 800-2 (non-precision). Which qualify?

A. Both airports qualify since each forecast meets its standard minimum

B. Only the precision airport qualifies because its approach is more capable

C. Only the non-precision airport qualifies due to the higher ceiling

D. Neither qualifies because both forecasts are below the standard minimums

30. During an instrument scan, a pilot notices altitude is stable but heading is slowly wandering. Which scan adjustment is appropriate?

A. Fixate on the altimeter to ensure the altitude remains perfectly stable

B. Increase attention to the heading indicator within the cross-check

C. Disregard the heading indicator and use only the magnetic compass

D. Stop scanning the attitude indicator to free attention for heading

31. A pilot flying an NDB approach at night notices the ADF needle swinging erratically during a distant thunderstorm. What is the cause?

A. Night and thunderstorm effects causing the ADF to point toward static

B. The NDB has failed and the approach must be abandoned at once

C. Normal needle behavior that requires no interpretation by the pilot

D. A vacuum failure affecting the ADF's gyroscopic stabilization

32. You file IFR with a destination forecast at exactly the 1-2-3 threshold and an alternate forecast at exactly its standard minimum. Is this flight legally planned?

A. Yes, meeting the thresholds exactly satisfies the planning requirements

B. No, the forecasts must exceed the thresholds by a safe margin

C. Yes, but only if the destination has a precision approach available

D. No, an alternate is never sufficient when at the exact minimum

33. During a missed approach, the autopilot is engaged in approach mode when you initiate the go-around. What is the appropriate action regarding the autopilot?

A. Leave it in approach mode since it will track the missed approach

B. Rely on it to climb automatically without any pilot intervention

C. Allow it to continue descending until reaching the missed approach fix

D. Select the appropriate go-around or climb mode, or hand-fly the missed

34. A pilot must interpret "RVR 2400" on an approach. What does this value describe?

A. The reported ceiling height in feet above the runway surface

B. The cloud base measured by an automated sensor at the field

C. The slant-range visibility from the aircraft to the runway

D. The runway visual range in feet along the runway surface

35. On a precision approach, you reach the DA and see only the runway end identifier lights and the threshold. May you continue to land?

A. No, the approach lights alone are required to continue past the DA

B. No, the full touchdown zone must be visible before continuing

C. Yes, the threshold and its lights are qualifying references to continue

D. Yes, but only if you also have the visual approach slope indicator

36. A pilot computes that a 3-degree glide path at 140 knots groundspeed requires a descent rate of about 740 fpm. If groundspeed increases to 160 knots, what happens to the required rate?

A. The required descent rate decreases because the path is fixed in angle

B. The required descent rate stays the same regardless of groundspeed

C. The required descent rate increases to about 850 fpm on the same path

D. The glide path angle steepens automatically to hold the same rate

37. During an IFR flight, the aircraft's only DME fails while flying an approach that requires DME to identify the FAF. What is the consequence?

A. The approach may be flown normally since DME is always optional

B. The pilot may estimate the FAF position using elapsed time alone

C. The missed approach point becomes the new final approach fix instead

D. The approach generally may not be flown as charted without the DME

38. A pilot recognizes "plan continuation bias" while pressing toward a destination with deteriorating weather. What is the antidote?

A. Increase the cruise speed to reach the destination before it worsens

B. Continue as planned since changing the plan increases the workload

C. Deliberately reassess the situation and consider diverting early

D. Defer the decision until reaching the final approach fix inbound

39. You are issued "descend via the STAR." What does this require?

A. Descend immediately to the lowest STAR altitude ignoring restrictions

B. Maintain the current altitude until ATC issues a specific descent

C. Comply with all published STAR altitude and speed restrictions

D. Descend at the pilot's discretion disregarding the charted crossings

40. A pilot notes the destination has an LPV approach but the aircraft has only a non-WAAS IFR GPS. What is the realistic expectation for minimums?

A. The LPV minimums are available with vertical guidance from the GPS

B. The LNAV lateral-only minimums apply without vertical guidance

C. The ILS precision minimums are substituted automatically by the GPS

D. No GPS approach is available at all without WAAS equipment installed

41. During a hold with a strong wind, the pilot finds the inbound leg consistently longer than one minute despite correct outbound timing. What adjustment is needed?

A. Lengthen the outbound leg further to extend the inbound leg more

B. Shorten the outbound leg so the wind-aided inbound leg times correctly

C. Increase the bank angle in the turns to tighten the holding pattern

D. Maintain the timing since holding patterns tolerate wind naturally

42. A pilot must choose the correct lost-communications altitude for a route segment: assigned 6,000, MEA 8,000, expected 10,000. What altitude applies for that segment?

A. 10,000 feet, the highest of the assigned, MEA, and expected values

B. 6,000 feet, the originally assigned altitude for the route segment

C. 8,000 feet, the minimum en route altitude for the segment flown

D. The pilot's discretion among the three since radios have failed

43. On an approach, you are cleared to descend "pilot's discretion" to 4,000. What flexibility does this provide?

A. You must descend immediately at the maximum safe rate to 4,000

B. You must maintain the current altitude until reaching the next fix

C. You may begin the descent when you choose and vary the rate to 4,000

D. You may descend below 4,000 at your discretion once established

44. A pilot reviewing an approach chart sees the note "procedure NA at night." What does this mean?

A. The procedure is not authorized for use during nighttime hours

B. The procedure requires a notice to airmen check before each night use

C. The procedure has no published minimums for nighttime operations

D. The procedure is available at night only with prior ATC approval

45. During cruise, the pilot must determine if an alternate is required. The destination forecast is 2,500 feet and 4 miles but a TEMPO group shows 1,500 feet and 2 miles. How should this be evaluated?

A. Use only the prevailing forecast of 2,500-4 and skip the alternate

B. Average the prevailing and TEMPO values before deciding on an alternate

C. Disregard the TEMPO group entirely as it is only a remote possibility

D. Consider the TEMPO conditions, which can trigger the alternate requirement

46. A pilot flying partial panel must roll out of a timed turn precisely on a new heading. What is the key technique?

A. Banking steeply and watching the magnetic compass during the turn

B. Timing the standard-rate turn at three degrees per second for the change

C. Using the failed heading indicator and accepting the resulting error

D. Relying solely on the GPS ground track without any timing reference

47. You are cleared for an ILS but the published note states "glide slope unusable below 1,200 feet." How should you fly the approach below that altitude?

A. Continue following the glide slope since the note is merely advisory

B. Abandon the approach entirely upon reaching 1,200 feet on the glide slope

C. Descend below the glide slope to capture the runway visually sooner

D. Use the localizer with the appropriate step-down or non-precision technique

48. A pilot recognizes the destination weather is below approach minimums and no improvement is forecast. What is the most appropriate planning decision?

A. Select a different destination or a suitable alternate before departure

B. Depart anyway and attempt the approach to assess actual conditions

C. File to the destination and plan to hold until the weather improves

D. Depart with extra fuel and circle the destination until able to land

49. During an approach, the controller issues a frequency change but you cannot reach the new controller. What is the recommended first step?

A. Return to the previous frequency and advise of the lost contact

B. Squawk 7600 immediately and continue under lost-communications rules

C. Continue the approach silently until reaching the runway environment

D. Climb to a higher altitude to attempt better radio reception range

50. A pilot must decide whether a flight requires an instrument rating. The flight is in Class E airspace with a forecast ceiling of 900 feet and 2 miles visibility. What governs the requirement?

A. The aircraft equipment, since an autopilot allows VFR in low weather

B. The weather being below VFR minimums in controlled airspace requires IFR

C. The altitude, since below 10,000 feet no instrument rating is needed

D. The presence of passengers, since solo flight needs no instrument rating

51. On a missed approach, the procedure specifies a climbing left turn but you are heavy and unable to meet the standard climb gradient. What is the concern?

A. The lateral path may be flown at any climb rate without consequence

B. The missed approach altitude restriction may be disregarded if heavy

C. ATC will automatically provide terrain vectors during the missed approach

D. Failing to meet the gradient may compromise obstacle clearance on the climb

52. A pilot interprets a METAR showing "VV004." What does this indicate?

A. A broken cloud layer with bases at four hundred feet above ground

B. Vertical visibility of four hundred feet into an indefinite ceiling

C. Visibility of four statute miles reported at the observing station

D. A variable wind condition affecting the four-hundred-foot layer

53. You are flying an approach and the autopilot, navigation source, and displays are all functioning, but you feel a strong sensation of climbing while the instruments show level. What governs your response?

A. Trust the instruments showing level flight and disregard the sensation

B. Add forward pressure to counter the climbing sensation immediately

C. Reduce power to arrest the perceived climb until the feeling stops

D. Disconnect the autopilot to manually correct the sensed climb

54. A pilot must determine the correct holding speed at FL200 (20,000 feet). What is the maximum holding airspeed for that altitude?

A. 200 knots indicated airspeed for that high-altitude holding band

B. 230 knots indicated airspeed for all altitudes above 6,000 feet

C. 175 knots indicated airspeed for turbine aircraft at high altitude

D. 265 knots indicated airspeed for the altitude band above 14,000 feet

55. During an approach, you realize the altimeter setting provided is from a distant station and differs from the local actual setting. What is the safest action?

A. Continue using the distant setting since it was officially provided

B. Average the distant and estimated local settings for the approach

C. Disregard the altimeter and rely on GPS altitude for the approach

D. Obtain and set the correct local altimeter setting before the approach

56. A pilot must decide whether an approach with a coupled autopilot may be continued below the DA. What governs this decision?

A. The autopilot's certification, which permits automatic landings always

B. ATC approval, which must be obtained before descending below the DA

C. The required visual references and flight visibility at the DA

D. The glide slope sensitivity, which determines the lowest safe altitude

57. You are issued a clearance with a "expect higher in 10 minutes" notation and then experience a radio failure. How does this affect your altitude planning?

A. The expected higher altitude becomes the planned altitude after the time

B. You must descend to the minimum en route altitude for safety

C. You maintain the current altitude indefinitely until landing

D. You climb immediately to the higher altitude without waiting

58. A pilot reviewing alternate requirements finds the only alternate has a forecast exactly at the standard non-precision minimum of 800-2. Is this alternate acceptable?

A. No, the alternate forecast must exceed the standard minimum to be used

B. No, non-precision approaches cannot serve as a filed alternate at all

C. Yes, meeting the standard alternate minimum exactly is acceptable

D. Yes, but only if the alternate also has a precision approach available

59. During an approach you receive a low-altitude alert from ATC while descending on the glide slope, which you are following precisely. What is the most likely explanation?

A. The glide slope has failed and is leading the aircraft into terrain

B. The alert may be a minimum-safe-altitude warning that warrants a quick cross-check

C. The aircraft is well above the glide path and climbing into traffic

D. The transponder has failed and ATC has lost the altitude readout

60. A pilot must choose the most conservative go/no-go decision among options when the destination is forecast at minimums with gusty crosswinds and a marginal alternate. What principle should guide the decision?

A. Depart and reassess once airborne since forecasts are often pessimistic

B. Accept the flight because the forecasts technically meet the minimums

C. Proceed since an instrument rating qualifies the pilot for such weather

D. Apply conservative personal minimums and delay or cancel if the risk is high

+ Answer Key

1. A — When forecasts conflict around the threshold, the conservative and required approach is to treat the conditions as below the 1-2-3 threshold and file an alternate. The lower forecast brings the ceiling below 2,000 feet within the window. Planning for the worse forecast preserves safety and legality.

2. A — With a radio failure after a "maintain 5,000, expect 9,000 in ten minutes" clearance, the pilot flies 5,000 until the ten minutes elapse, then climbs to 9,000. The expect time governs when the higher altitude applies. This follows the lost-communications altitude logic for the expected altitude.

3. C — With a published VDP, reaching the MDA before the VDP means maintaining the MDA until the VDP, then beginning a normal descent. Descending early from above the VDP produces an unstabilized, steep path. The VDP marks where a normal descent gradient intercepts the runway.

4. C — Electing to fly the procedure as a localizer approach means the localizer non-precision minimums apply, consistent with how it is flown. The minimums must match the guidance actually used. Without using the glide slope, the higher LOC minimums govern.

5. C — An autopilot holding a small left needle deflection while tracking steadily most likely indicates a right crosswind being countered, keeping the aircraft on centerline. The autopilot crabs into the wind. A small steady deflection with stable tracking is consistent with wind correction.

6. B — The minimum legal fuel is the destination leg (30 gal) plus the alternate leg (12 gal) plus a 45-minute reserve (9 gal at 12 gph), totaling 51 gallons. The reserve is added on top of both legs. This is the standard IFR fuel computation with an alternate.

7. C — On a DME arc, the lead radial depicted before the desired course change signals when to begin the turn onto the radial. It provides advance warning so the turn starts in time. This improves interception accuracy off the arc.

8. C — Descending 4,000 feet at 500 fpm takes 8 minutes; at 150 knots (2.5 NM per minute) that covers 20 NM, so the descent should begin about 20 NM from BAYLR. Matching descent time to distance yields a stabilized descent. The pilot starts down where the math aligns.

9. A — A 20-degree heading-indicator drift over ten minutes, far beyond normal precession, points to a failing vacuum pump despite a momentarily normal suction reading. Excessive drift signals a developing gyro problem. Normal precession would be far smaller over that interval.

10. C — An LPV-to-LNAV/VNAV downgrade means vertical guidance continues but to higher LNAV/VNAV minimums. The approach is not lost; the minimums rise. The pilot flies the applicable higher line of minimums.

11. B — Recognizing a slam-dunk will produce an unstabilized approach, the best response is to decline or request relief, prioritizing a stabilized approach. A stabilized approach is a core safety standard. The pilot manages workload by not accepting an unsafe descent.

12. B — With an MOCA of 5,000 but the aircraft 30 NM from the VOR, navaid reception is assured only within 22 NM, so descending to 5,500 may lose the signal. MOCA guarantees obstacle clearance for the segment but reception only within 22 NM. Beyond that, navigation guidance is not assured.

13. D — A glide slope needle pegged full up with a centered localizer indicates the aircraft is below the glide path, with the localizer still reliable. The needle points toward the path, which is above the aircraft. The pilot is low and must intercept from below.

14. A — An approach flown in actual IMC counts toward currency if it was flown to the point of an ATC-directed go-around in IMC, since the pilot flew it by reference to instruments. The instrument portion satisfies the recency intent. The ATC instruction to go around does not invalidate it.

15. B — With normal communication established, passing the EFC time means the pilot remains in the hold and awaits an actual clearance. The EFC time governs only the lost-communications case. With radios working, no automatic departure is authorized.

16. D — At −15°C, well below standard, true altitude is lower than indicated, reducing obstacle clearance at the minimums. Cold air is denser, so the aircraft flies lower than the altimeter shows. Cold-temperature corrections restore the intended clearance.

17. B — Without the attitude indicator, the airspeed indicator, altimeter, and vertical speed indicator best help manage a controlled partial-panel descent. These pitot-static instruments indicate pitch performance. Together they let the pilot hold a stable descent rate.

18. C — After "climb via SID," a "climb and maintain 11,000" instruction cancels the published altitude restrictions while the lateral path and the 11,000 assignment apply. The new altitude clearance supersedes the SID's altitude profile. The pilot still flies the SID's lateral routing.

19. C — A lowering freezing level in cloud calls for minimizing time in icing by expediting through the layer or diverting. Reducing exposure is the priority. Ice can form at and above the freezing level in visible moisture.

20. B — If a "250 knots or greater" assignment prevents a safe, stabilized approach, the pilot advises unable. Safety takes precedence over the speed request. ATC can then provide an alternative that allows a stabilized approach.

21. A — "NoPT" on a route segment means no procedure turn is to be flown when arriving via that segment. The routing already aligns the aircraft for the approach. Flying an unneeded procedure turn would be a deviation.

22. B — If RAIM is predicted unavailable for the ETA, the GPS approach should not be relied upon and an alternative should be planned. RAIM provides the integrity assurance required for the approach. Without it, the approach is not authorized.

23. B — The minimum safe altitude depicted on the approach chart best provides emergency obstacle clearance by quadrant near the airport. It gives about 1,000 feet of clearance within a defined radius. It is intended for emergency use, not routine navigation.

24. A — Losing sight of the airport on a visual approach requires advising ATC immediately, since the visual approach requires the airport (or preceding traffic) in sight. The pilot can then receive vectors or an instrument clearance. Continuing blind is not permitted.

25. A — A non-WAAS aircraft filing to an alternate with only an RNAV (GPS) approach must ensure the approach is usable with its equipment and that alternate minimums are met. Suitable equipment and forecast minimums govern. GPS approaches can serve as an alternate basis when these conditions are satisfied.

26. C — A localizer oscillating near the runway on a coupled approach calls for being prepared to disconnect and hand-fly or go missed if it continues. Reliable lateral guidance is essential at low altitude. The pilot should not continue coupled with degraded localizer tracking.

27. D — A 350 ft/NM gradient at 120 knots (2 NM per minute) requires about 700 fpm (350 × 2). Climb rate equals gradient times groundspeed in NM per minute. This converts the charted gradient into a usable vertical-speed target.

28. D — Vectored across the final approach course without an approach clearance, the pilot maintains the assigned heading and queries ATC about the crossing. Turning inbound without clearance is unauthorized. The pilot confirms intentions with the controller.

29. A — Both alternates qualify: the precision airport's 700-2 meets its 600-2 standard, and the non-precision airport's 900-3 meets its 800-2 standard. Each forecast equals or exceeds the applicable standard minimum. Both are therefore acceptable as filed alternates.

30. B — Stable altitude with wandering heading calls for increasing attention to the heading indicator within the cross-check. The scan is rebalanced toward the deviating parameter. Fixating elsewhere or dropping the attitude indicator would worsen control.

31. A — Erratic ADF needle swings near a distant thunderstorm at night result from night and thunderstorm effects, causing the ADF to point toward static rather than the station. These are known NDB limitations. The pilot interprets the indications with caution.

32. A — Meeting the 1-2-3 destination threshold and the standard alternate minimum exactly satisfies the planning requirements, so the flight is legally planned. The regulations require meeting, not exceeding, the values. Exact compliance is acceptable for planning.

33. D — Initiating a go-around with the autopilot in approach mode requires selecting the appropriate go-around or climb mode, or hand-flying the missed approach. The autopilot will not transition correctly on its own. The pilot must command the climb.

34. D — "RVR 2400" describes the runway visual range, 2,400 feet measured along the runway surface. RVR is a sensor-derived horizontal visibility down the runway. It is used in place of prevailing visibility for many approaches.

35. C — Seeing the runway end identifier lights and the threshold at the DA provides qualifying references to continue and land. The threshold and its lights are among the listed visual references. The pilot may continue with these in sight.

36. C — Increasing groundspeed from 140 to 160 knots on a fixed 3-degree path increases the required descent rate to about 850 fpm. Descent rate scales with groundspeed on a fixed-angle path. Faster groundspeed demands a proportionally higher rate.

37. D — If the only DME fails on an approach that requires DME to identify the FAF, the approach generally may not be flown as charted. The required equipment to identify the fix is missing. The pilot must use a different approach or procedure.

38. C — The antidote to plan continuation bias is to deliberately reassess the situation and consider diverting early. Conscious re-evaluation counters the pull to press on. Early diversion preserves options and safety.

39. C — "Descend via the STAR" requires complying with all published STAR altitude and speed restrictions. The clearance authorizes the charted descent profile. The pilot meets each crossing restriction as depicted.

40. B — With only a non-WAAS IFR GPS, the realistic expectation is the LNAV lateral-only minimums without vertical guidance. LPV requires WAAS. The LNAV line of minimums applies.

41. B — A consistently long inbound leg despite correct outbound timing means the outbound leg should be shortened so the wind-aided inbound leg times correctly. Timing is adjusted to achieve a one-minute inbound leg. The wind correction balances the pattern.

42. A — The lost-communications altitude for the segment is 10,000 feet, the highest of the assigned (6,000), MEA (8,000), and expected (10,000). The rule selects the highest applicable value. This ensures terrain clearance and predictability.

43. C — A "pilot's discretion" descent to 4,000 lets the pilot begin the descent when chosen and vary the rate down to 4,000. It provides flexibility in timing and rate. The pilot may not descend below 4,000 under that clearance.

44. A — "Procedure NA at night" means the procedure is not authorized for use during nighttime hours. The restriction prohibits its use at night. The pilot must use an authorized procedure instead.

45. D — A TEMPO group showing 1,500-2 must be considered, as such conditions can trigger the alternate requirement even with a better prevailing forecast. Temporary conditions count in the evaluation. The pilot plans for the possibility they occur.

46. B — Rolling out of a partial-panel timed turn precisely uses timing the standard-rate turn at three degrees per second for the heading change. Time equals heading change divided by three. The turn coordinator provides the rate reference.

47. D — With "glide slope unusable below 1,200 feet," the pilot flies the localizer with the appropriate step-down or non-precision technique below that altitude. The glide slope cannot be trusted there. The localizer remains usable for lateral guidance.

48. A — When the destination is below minimums with no improvement forecast, the appropriate decision is to select a different destination or suitable alternate before departure. Launching toward an unlandable destination is imprudent. Planning a viable destination is the sound choice.

49. A — Failing to reach the new controller, the recommended first step is to return to the previous frequency and advise of the lost contact. The prior controller can reissue the frequency or assist. This precedes squawking 7600.

50. B — The requirement is governed by the weather being below VFR minimums in controlled airspace, which requires an instrument rating and IFR. Equipment, altitude, and passengers do not change this. Below-VFR conditions in controlled airspace mandate IFR.

51. D — Inability to meet the missed-approach climb gradient when heavy means obstacle clearance on the climb may be compromised. The published gradient assures terrain clearance. The pilot must consider performance limits before committing.

52. B — "VV004" indicates vertical visibility of 400 feet into an indefinite ceiling (an obscuration). It is reported when the sky is obscured and no distinct layer exists. It serves as the ceiling value for the approach.

53. A — A strong climbing sensation with level instruments requires trusting the instruments and disregarding the sensation. The vestibular cue is false in IMC. Acting on the feeling would induce an actual deviation.

54. D — At FL200 the maximum holding airspeed is 265 knots indicated, the limit for the 14,001-foot-and-above band. Holding speed limits keep the aircraft within protected airspace. The higher band allows the higher speed.

55. D — A distant, differing altimeter setting calls for obtaining and setting the correct local setting before the approach. Accurate altitude depends on the proper local setting. This preserves obstacle clearance on the approach.

56. C — Continuing below the DA on a coupled approach is governed by the required visual references and flight visibility at the DA. The autopilot's capability does not authorize descent. Visual references and visibility control the landing decision.

57. A — After a radio failure following "expect higher in ten minutes," the expected higher altitude becomes the planned altitude after the time elapses. The expect notation governs the NORDO altitude. The pilot climbs at the appropriate time.

58. C — An alternate forecast exactly at the standard non-precision minimum of 800-2 is acceptable, since meeting the standard minimum exactly satisfies the requirement. Exact compliance is sufficient. The alternate may be filed.

59. B — A low-altitude alert while precisely on the glide slope may be a minimum-safe-altitude warning that warrants a quick cross-check of altitude and position. The pilot verifies the indications rather than assuming an error. A fast cross-check confirms the aircraft is safe before continuing.

60. D — The most conservative go/no-go decision applies conservative personal minimums and delays or cancels if the risk is high. Personal minimums guard against marginal, compounding hazards. This principle prioritizes safety over technical legality.