PRACTICE EXAM 28 SIMULATION

1. During preflight, the pilot obtains a briefing and wants the element that explains the big-picture causes of the day's weather — the fronts and pressure systems moving through the route. Which briefing element provides this?

A. The current conditions report

B. The destination forecast

C. The synopsis

D. The NOTAMs

2. The destination TAF shows, for the window one hour before to one hour after the ETA, a ceiling of 1,800 feet and visibility of 2 statute miles. What does this require of the pilot?

A. Nothing further, since the ceiling exceeds 1,500 feet

B. Cancellation of the IFR flight before departure

C. Selection and filing of a qualifying alternate airport

D. An immediate switch to a VFR flight plan

3. The pilot selects an alternate served only by a non-precision RNAV (LNAV) approach. What forecast minimums must that alternate meet at the ETA, absent published non-standard minimums?

A. A ceiling of 600 feet and visibility of 2 statute miles

B. A ceiling of 800 feet and visibility of 2 statute miles

C. A ceiling of 400 feet and visibility of 1 statute mile

D. Basic VFR conditions only

4. The flight will require 1.5 hours to the destination and 0.75 hours to the alternate, at a fuel burn of 10 gallons per hour. What minimum fuel satisfies the destination, the alternate, and the IFR reserve?

A. About 24 gallons

B. About 30 gallons

C. About 35 gallons

D. About 40 gallons

5. At the towered departure airport, the pilot receives the IFR clearance from clearance delivery before taxi. What activates the IFR flight plan?

A. Accepting the clearance and departing into the system

B. A separate phone call to flight service after takeoff

C. The first compulsory position report en route

D. Reaching the filed cruising altitude

6. The clearance is delivered in CRAFT order. After the clearance limit, route, and altitude, which element does the controller state next?

A. The transponder code

B. The clearance void time

C. The expected cruising airspeed

D. The departure control frequency

7. The departure airport lies in a valley with rising terrain, and the visibility is low. To guarantee obstacle clearance on departure, what should the pilot review and fly?

A. The standard terminal arrival route for the destination

B. The minimum safe altitude circle on the approach chart

C. A preferred IFR route between the airports

D. The published obstacle departure procedure (ODP)

8. Established en route in a non-radar segment, the pilot crosses a fix charted as a solid triangle. What is required?

A. A compulsory position report over the fix

B. A position report only if specifically requested

C. An immediate descent to the minimum crossing altitude

D. A frequency change to the next flight service station

9. The en route chart shows an asterisked altitude lower than the MEA on the current segment. What does that asterisked altitude represent?

A. The maximum authorized altitude

B. The minimum reception altitude

C. The minimum obstruction clearance altitude (MOCA)

D. The minimum crossing altitude at the next fix

10. Partway through the cruise, the pilot wants groundspeed for the next leg. The leg is 90 nautical miles and the forecast groundspeed is 120 knots. What is the time en route?

A. 30 minutes

B. 60 minutes

C. 50 minutes

D. 45 minutes

11. A Convective SIGMET is issued for embedded thunderstorms ahead, and the pilot has datalink NEXRAD in the cockpit. What is the correct use of the radar given the embedded cells?

A. Thread between the cells using the displayed image

B. Avoid the area strategically with a wide margin, since the cells are unseen and the image lags

C. Descend below the cells using the mosaic for guidance

D. Treat the image as real-time for close-in separation

12. The pilot decides to divert and requests an amended clearance. Until ATC issues the amendment, what governs the pilot's routing?

A. The pilot may turn immediately toward the alternate without coordination

B. The flight plan is void and free navigation applies

C. The nearest airport must be selected automatically

D. The current clearance, until the amended clearance is received

13. Approaching the alternate, ATC issues a hold at 7,000 feet MSL. What maximum holding airspeed must the pilot not exceed?

A. 230 knots indicated airspeed

B. 200 knots indicated airspeed

C. 265 knots indicated airspeed

D. 175 knots indicated airspeed

14. The hold is at 7,000 feet. What standard inbound leg time applies?

A. 1.5 minutes

B. 2 minutes

C. 45 seconds

D. 1 minute

15. The pilot arrives at the holding fix from the sector opposite the holding side, behind the inbound course. Which entry is appropriate?

A. A direct entry, turning immediately into the pattern

B. A parallel entry, paralleling the inbound course outbound

C. A teardrop entry at a 30-degree offset on the holding side

D. No entry; orbit the fix first

16. A crosswind affects the hold. On the outbound leg, the pilot applies approximately what wind correction relative to the inbound leg?

A. About triple the inbound wind correction angle

B. About half the inbound correction angle

C. The same correction as the inbound leg

D. No correction, since the turns cancel drift

17. While holding, the pilot receives an EFC time. If two-way communication is lost, what does the EFC time tell the pilot to do?

A. Leave the holding fix at the EFC time and proceed per the clearance

B. Remain in the hold indefinitely until contacted

C. Squawk 1200 and proceed VFR

D. Climb to the maximum authorized altitude immediately

18. The pilot monitors fuel and finds the EFC is 30 minutes away but only 22 minutes of fuel remain above the required reserve. What is the prudent action?

A. Continue holding until the EFC regardless of fuel

B. Advise ATC and proceed to land while reserves remain

C. Descend below the holding altitude to conserve fuel

D. Increase airspeed to shorten the hold

19. Released from the hold, the pilot is vectored toward the final approach course of an ILS. The chart depicts a procedure turn. Should the pilot fly it?

A. Yes, the procedure turn is mandatory whenever charted

B. Yes, unless above the charted procedure-turn altitude

C. No, a procedure turn is not flown when being radar vectored to final

D. Only with specific controller authorization

20. Intercepting the ILS, the pilot centers the localizer and approaches the glide slope from below. What is the correct next step?

A. Descend at maximum rate to capture the glide slope

B. Maintain altitude and ignore the glide slope until the FAF

C. Intercept the glide slope as it centers and begin the descent

D. Climb to recapture the localizer first

21. On final, the localizer needle is deflected slightly right while the glide slope is centered, and the aircraft is near the runway where the localizer is most sensitive. What is the correct response?

A. Make a small, smooth correction to the right

B. Make a large correction to recenter quickly

C. Disregard the localizer and follow the glide slope

D. Initiate a missed approach due to the deflection

22. The approach is a precision ILS. At what point does the pilot make the decision to land or go missed?

A. At the minimum descent altitude after leveling off

B. At the decision altitude

C. At the final approach fix

D. At the missed approach holding fix

23. At the decision altitude, the pilot has the approach lighting system in sight but not yet the runway threshold. What does the regulation generally permit?

A. Continuing below DA on the approach lights within the defined limit

B. An immediate mandatory missed approach with no continuation

C. Descending all the way to the runway on the lights alone

D. Circling at the DA until the threshold appears

24. The runway environment does not come into view in time, and the pilot must go missed. What governs the climb and routing of the missed approach?

A. The pilot's discretion to choose any heading

B. A direct climb to the en route altitude

C. The published missed approach procedure on the chart

D. Radar vectors that are always automatically provided

25. During the missed approach climb, the pilot experiences a vacuum pump failure and the attitude and heading indicators become unreliable. What is the immediate priority?

A. Cycle the vacuum circuit breaker to restart it

B. Contact ATC to report the failure first

C. Begin an immediate descent regardless of terrain

D. Maintain control by transitioning to partial-panel technique

26. Flying partial panel, the pilot must keep the wings level without the attitude or heading indicators. Which instrument provides the primary bank reference?

A. The altimeter

B. The turn coordinator

C. The airspeed indicator

D. The vertical speed indicator

27. On partial panel, the pilot controls pitch without the attitude indicator. Which combination provides the pitch picture?

A. The turn coordinator and magnetic compass

B. The altimeter, airspeed indicator, and VSI together

C. The tachometer and manifold pressure gauge

D. The heading indicator and OBS

28. The failure qualifies as a genuine emergency in IMC. What does declaring an emergency provide the pilot?

A. ATC's full assistance and priority handling

B. Automatic cancellation of the IFR flight plan

C. A requirement to land at the nearest airport regardless of suitability

D. Transfer of pilot-in-command authority to the controller

29. The pilot considers the priority hierarchy while managing the failure. Which sequence is correct?

A. Communicate, navigate, then aviate

B. Navigate, communicate, then aviate

C. Communicate, aviate, then navigate

D. Aviate, navigate, then communicate

30. During the emergency, the pilot recognizes a creeping false sensation of bank while the turn coordinator shows wings level. What should the pilot do?

A. Trust the bodily sensation and level by feel

B. Re-engage the failed attitude indicator

C. Initiate a steep descent to regain visual conditions

D. Trust the turn coordinator and disregard the sensation

31. With the failure managed, the pilot sets up a second approach — a non-precision RNAV (GPS) approach. As the aircraft nears the final approach fix, the CDI has not tightened to approach sensitivity. What must the pilot confirm?

A. That the navigator has sequenced into approach mode

B. That the transponder code is correct

C. That the autopilot is in heading mode

D. That the compass agrees with the heading indicator

32. This RNAV approach is flown to the LNAV minimum line. What type of guidance does LNAV provide?

A. Vertical guidance only

B. Both lateral and vertical guidance

C. Lateral guidance only, making it non-precision

D. Precision guidance equivalent to an ILS

33. On this non-precision approach, the pilot reaches the MDA, levels off, and arrives at the missed approach point without the runway in sight. What must the pilot do?

A. Descend below the MDA to search for the runway

B. Circle at the MDA until the weather improves

C. Continue a descent on a computed glide path

D. Execute the published missed approach immediately

34. The pilot needs to identify the missed approach point using the chart's timing table from the FAF. What value must the pilot know to use the table?

A. The current altimeter setting

B. The outside air temperature

C. The aircraft's landing weight

D. The groundspeed on the final approach segment

35. After a second missed approach, the pilot elects to divert to a third airport with better weather. The remaining fuel must still preserve which reserve under IFR?

A. A 30-minute reserve

B. A 45-minute reserve at normal cruising speed

C. A 60-minute reserve

D. No reserve, since an emergency was declared

36. En route to the third airport, the pilot must fly at or above the published minimum altitude on each segment. Which altitude assures both obstacle clearance and navigation signal coverage for the whole segment?

A. The minimum obstruction clearance altitude

B. The minimum reception altitude

C. The minimum en route altitude (MEA)

D. The maximum authorized altitude

37. The third airport's forecast shows a ceiling of 3,000 feet and visibility of 5 statute miles, holding through the required window. Under the 1-2-3 rule, what is required for this as the new destination?

A. No alternate is required, since the forecast satisfies 2,000 and 3

B. An alternate meeting precision minimums must be filed

C. An alternate meeting non-precision minimums must be filed

D. The flight must wait until the ceiling exceeds 4,000 feet

38. Approaching the third airport, the pilot is assigned a STAR with a "descend via" clearance. What is the pilot responsible for managing?

A. Only the lateral routing, since ATC assigns each altitude

B. Nothing, since crossing restrictions are advisory

C. Only the final crossing restriction

D. The descent to meet every published crossing restriction

39. The pilot tunes the ILS for the third airport's approach and prepares to use the localizer. Before relying on it, what must the pilot do?

A. Set the decision altitude into the autopilot

B. Verify the Morse code identifier to confirm the correct, operating facility

C. Confirm the runway length on the airport diagram

D. Note the glide slope angle from the chart

40. On this final ILS, the glide slope needle is deflected above center. What does this indicate?

A. The aircraft is above the glide path; increase the descent

B. The localizer has failed; disregard lateral guidance

C. The aircraft has passed the missed approach point

D. The aircraft is below the glide path; reduce the descent

41. The pilot breaks out, sees the required visual references, and the flight visibility meets the published minimum. What two conditions together permitted the landing?

A. Required flight visibility and a required visual reference in sight

B. Reaching the MDA alone, regardless of visibility

C. Bright runway lights alone, ignoring the DA

D. A centered glide slope alone

42. After landing at this towered airport, what happens to the IFR flight plan?

A. The tower closes it automatically upon observing the landing

B. The pilot must phone flight service to close it

C. The transponder closes it on rollout

D. It remains open until the next business day

43. Reflecting on the diversion decisions, the pilot recognizes that external pressure to reach the original destination had been building. Which PAVE element does that pressure represent?

A. The Pilot element

B. The Aircraft element

C. The enVironment element

D. The External pressures element

44. The pilot also recognizes having felt "I can make this work" earlier despite worsening weather. Which hazardous attitude is this, and its antidote?

A. Anti-authority; "Follow the rules"

B. Macho; "Taking chances is foolish"

C. Resignation; "I'm not helpless"

D. Impulsivity; "Not so fast, think first"

45. Reviewing the vacuum failure, the pilot notes it was more dangerous because it occurred in IMC. Why is that the case?

A. The vacuum system powers the radios needed in IMC

B. There is no outside horizon in IMC to replace the lost attitude reference

C. The vacuum system is required only in VMC

D. IMC increases the electrical load and drains the battery

46. The pilot considers that the turn coordinator survived the vacuum failure. Why was it still available?

A. It is typically driven by the electrical system, not the vacuum system

B. It shares the vacuum source with the attitude indicator

C. It runs on ram air from the pitot tube

D. It requires no power source at all

47. Reviewing weather, the pilot notes the embedded thunderstorms were especially dangerous. Why are embedded thunderstorms particularly hazardous?

A. They are always weaker than visible thunderstorms

B. They are hidden within cloud and cannot be seen to be avoided

C. They occur only above 18,000 feet

D. They produce no turbulence or icing

48. The pilot recalls that the destination's converging temperature–dew point spread had warned of deteriorating conditions. What did the converging spread indicate?

A. Strong winds aloft developing

B. The air approaching saturation, favoring cloud or fog

C. An unstable lapse rate building thunderstorms

D. Rapidly improving visibility

49. Reviewing the alternate selection, the pilot confirms the alternate had only a non-precision approach. What standard ceiling minimum applied to it?

A. 400 feet

B. 600 feet

C. 800 feet

D. 1,000 feet

50. The pilot reflects that the IFR fuel plan stacked three components. Which sequence is correct?

A. Alternate, then destination, then a 30-minute reserve

B. Destination plus a 60-minute reserve only

C. Destination, then alternate, then a 45-minute reserve

D. Reserve first, then destination, alternate optional

51. Considering the lost-communication contingency that never materialized, the pilot reviews the altitude rule. On each segment the pilot would fly which altitude?

A. The last assigned altitude only

B. The lowest minimum altitude for the segment

C. The expected altitude only, ignoring minimums

D. The highest of the minimum, expected, and assigned altitudes

52. Reviewing the lost-communication route rule, the pilot recalls the priority order. Which routing has the highest priority if it applies?

A. The most direct route the pilot judges efficient

B. The filed route only, ignoring assignments

C. The route assigned in the last ATC clearance

D. The route to the nearest airport regardless of filing

53. The pilot notes that exceeding holding speed in the wind-affected turns would have been risky. Why?

A. The transponder would reset and timing would double

B. The hold would become a precision approach

C. The aircraft could exit the protected airspace

D. The EFC time would automatically extend

54. Reflecting on currency, the pilot — though legally current — felt rusty during the demanding IMC approaches. What distinction does this illustrate?

A. Currency is a regulatory minimum; proficiency is actual ability, and they can differ

B. Currency and proficiency are identical

C. A current pilot is always proficient

D. Proficiency expires every 24 months

55. The pilot recalls that the altimeter and static system inspection must be current for IFR. Within how many calendar months must it have been completed?

A. 12 calendar months

B. 24 calendar months

C. 36 calendar months

D. 6 calendar months

56. The flight relied on VOR navigation for part of the route. Within how many days must the VOR accuracy check have been completed for IFR use?

A. 90 days

B. 60 days

C. 6 calendar months

D. 30 days

57. The pilot reflects that an inoperative required instrument would have grounded the flight for IFR. What must be done with such an instrument before IFR flight?

A. It may simply be logged and the flight conducted

B. The flight may proceed if the weather is forecast VMC

C. It must be addressed under the MEL or deactivate-and-placard process

D. GPS altitude may substitute for it

58. Looking back, the pilot credits staying ahead of the aircraft for managing the workload. What is the unifying goal of single-pilot resource management?

A. To anticipate and prepare, preserving reserve capacity for the unexpected

B. To eliminate all ATC communication

C. To rely solely on the autopilot for decisions

D. To delegate navigation entirely to passengers

59. The pilot recognizes that briefing each approach early had preserved capacity. Why does early briefing reduce risk?

A. It eliminates the requirement to fly a missed approach

B. It preserves reserve mental capacity for the high-workload final phase

C. It guarantees the weather will remain above minimums

D. It allows skipping the approach chart review

60. Finally, the pilot concludes that the day's safe outcome owed most to which factor, consistent with accident statistics?

A. Superior stick-and-rudder skill alone

B. The aircraft's advanced avionics alone

C. Sound recognition, judgment, and decision-making

D. Favorable luck with the weather

Answer Key

1. C — The synopsis provides the big-picture causes — the positions and movement of fronts and pressure systems. The current conditions, destination forecast, and NOTAMs describe specific conditions and notices rather than the overall pattern. The synopsis explains why the weather is what it is.

2. C — A ceiling of 1,800 feet and 2 statute miles fails both parts of the 1-2-3 rule (2,000 feet and 3 statute miles), so a qualifying alternate must be selected and filed. The flight need not be canceled or refiled VFR. The alternate must then meet its own minimums.

3. B — An alternate served only by a non-precision approach must meet 800 feet and 2 statute miles, absent published non-standard minimums. The 600-2 figure applies to a precision approach. RNAV being satellite-based does not change the minimum.

4. B — The IFR rule stacks destination, alternate, and a 45-minute reserve: 1.5 + 0.75 + 0.75 = 3.0 hours, and 3.0 hours × 10 gph = 30 gallons. The 45-minute (0.75-hour) reserve is mandatory under IFR regardless of the alternate. The total of about 30 gallons is the minimum that legally covers all three components at this burn rate.

5. A — An IFR flight plan is activated by accepting the clearance and departing into the system; there is no separate phone call as with VFR. The first position report and reaching cruising altitude do not activate it. Acceptance plus departure is what activates it.

6. D — In CRAFT order — Clearance limit, Route, Altitude, Frequency, Transponder — the frequency (departure control) follows the altitude. The transponder code comes last, and the void time and cruising airspeed are not CRAFT elements. The frequency is next after altitude.

7. D — At a departure airport in a valley with rising terrain and low visibility, the published obstacle departure procedure (ODP) guarantees obstacle clearance and may be flown at the pilot's discretion. A STAR, MSA circle, or preferred route does not serve this departure function. The ODP is the pilot's terrain safeguard.

8. A — A fix charted as a solid triangle is a compulsory reporting point, requiring a position report in a non-radar environment. Open triangles are on-request. The report keeps ATC aware of the aircraft's position where radar cannot.

9. C — An asterisked altitude lower than the MEA on the same segment is the MOCA, which guarantees obstacle clearance but signal coverage only within 22 NM of the VOR. It is not the MAA, MRA, or MCA. The MOCA is always equal to or lower than the MEA.

10. D — Time equals distance divided by groundspeed: 90 NM ÷ 120 knots = 0.75 hour = 45 minutes. At 120 knots the aircraft covers 2 NM per minute. Ninety miles takes 45 minutes.

11. B — With embedded thunderstorms and datalink latency, the correct use is to avoid the area strategically with a wide margin, since the cells are unseen and the image lags. Threading between cells, descending using the mosaic, or treating it as real-time are unsafe. Embedded plus latent equals avoid widely.

12. D — Until the amended clearance is received, the current clearance governs the routing; the pilot may not deviate except in an emergency. The flight plan is not void, free navigation does not apply, and the nearest airport is not automatically selected. The pilot flies the current clearance until amended.

13. A — At 7,000 feet MSL the aircraft is in the 6,001–14,000 foot tier, where the maximum holding airspeed is 230 KIAS. The tiers are 200 up to 6,000 feet, 230 to 14,000 feet, and 265 above. This altitude is in the middle tier.

14. D — At 7,000 feet MSL (at or below 14,000 feet), the standard inbound holding leg is 1 minute. Above 14,000 feet it is 1.5 minutes. The 14,000-foot break governs the timing.

15. B — Arriving from the sector opposite the holding side, behind the inbound course, calls for a parallel entry: cross the fix, parallel the inbound course outbound on the non-holding side, then turn back to intercept. Direct and teardrop entries serve the other sectors. The entry must match the arrival geometry.

16. A — In a hold with a crosswind, the standard technique is to apply roughly triple the inbound wind correction angle on the outbound leg, compensating for drift through both turns. The legs are crabbed; the turns cannot be. This keeps the pattern within protected airspace.

17. A — If communication is lost while holding, the EFC time tells the pilot to leave the holding fix at that time and proceed per the clearance. The pilot does not hold indefinitely, squawk VFR, or climb to the maximum altitude. The EFC becomes a critical instruction without further word from ATC.

18. B — With the EFC 30 minutes away but only 22 minutes of fuel above the reserve, continued holding would erode the reserves, so the prudent action is to advise ATC and proceed to land while reserves remain. Holding to the EFC, descending, or speeding up does not solve the fuel deficit. Anticipation governs fuel management.

19. C — A procedure turn is not flown when being radar vectored to final, because the vectors position the aircraft to intercept directly. A charted procedure turn is not mandatory under vectors. It is also omitted on NoPT routes and when cleared straight-in.

20. C — After centering the localizer, the pilot intercepts the glide slope as it centers and begins the descent, keeping both needles centered. A maximum-rate descent, ignoring the glide slope, or climbing to recapture the localizer are incorrect. The glide slope is intercepted from below as it comes alive.

21. A — With the localizer deflected slightly right and the glide slope centered near the runway, the pilot makes a small, smooth correction to the right, because localizer sensitivity is high close in. A large correction would overshoot, disregarding the localizer is wrong, and a deflection alone does not require a missed approach. Small corrections suit high sensitivity.

22. B — On a precision ILS, the decision to land or go missed is made at the decision altitude. The MDA applies to non-precision approaches, and the FAF and missed approach holding fix are not the decision point. The DA is where the precision-approach decision occurs.

23. A — With the approach lighting system in sight at the DA, the regulation generally permits continuing below DA on the approach lights within the defined limit, until other required references appear. It is not an immediate mandatory missed approach, nor may the aircraft descend all the way on the lights alone. The approach-light allowance is a specific, limited provision.

24. C — Once the missed approach is initiated, the published missed approach procedure governs the climb and routing. The pilot does not choose an arbitrary heading or assume automatic vectors. The published path protects the aircraft from terrain and obstacles.

25. D — After a vacuum failure in IMC, the immediate priority is to maintain control by transitioning to partial-panel technique — aviate first. Cycling the breaker, communicating, or descending come only after control is assured. Control of the aircraft is always first.

26. B — On partial panel after a vacuum failure, the turn coordinator provides the primary bank reference, kept at zero rate to hold the wings level. The attitude and heading indicators are lost, and the VSI addresses pitch. The turn coordinator is electrically driven and survives.

27. B — On partial panel, pitch is controlled using the altimeter, airspeed indicator, and VSI together, since the attitude indicator is lost. The turn coordinator and compass handle bank, and the tachometer or OBS are not pitch references. The pitot-static instruments reconstruct the pitch picture.

28. A — Declaring an emergency brings ATC's full assistance and priority handling. It does not cancel the flight plan, force a landing at an unsuitable airport, or transfer command to the controller. Declaring unlocks support and priority.

29. D — The priority hierarchy is aviate, navigate, communicate, in that order. Maintaining control comes before navigating or using the radio. The other orderings reverse this life-saving sequence.

30. D — With a false sensation of bank but the turn coordinator showing wings level, the pilot should trust the turn coordinator and disregard the sensation. Trusting the body, re-engaging the failed

instrument, or diving for visual conditions are dangerous. Disciplined trust in the working instrument is the defense.

31. A — If the CDI has not tightened to approach sensitivity near the final approach fix, the pilot must confirm the navigator has sequenced into approach mode. The transponder, autopilot, and compass are not the issue. Approach scaling provides the precision the segment requires.

32. C — The LNAV line provides lateral guidance only, making it a non-precision approach. It does not provide vertical guidance or precision equivalent to an ILS; LNAV/VNAV and LPV add vertical guidance. LNAV is lateral-only.

33. D — Reaching the missed approach point without the runway in sight requires executing the published missed approach immediately. Descending below MDA to search, circling, or continuing on a glide path are unsafe and not permitted. A go-around is the correct, expected action.

34. D — To use the chart's timing table to identify the MAP from the FAF, the pilot must know the groundspeed on the final approach segment, since the table converts groundspeed to elapsed time. The altimeter setting, temperature, and weight are not used. Groundspeed is the key variable.

35. B — Even after declaring an emergency earlier, an IFR diversion must still preserve the 45-minute reserve at normal cruising speed where practicable. The reserve is the IFR standard, not 30 or 60 minutes, and is not waived as a matter of routine. The 45-minute reserve is the IFR figure.

36. C — The minimum en route altitude (MEA) assures both obstacle clearance and navigation signal coverage for the entire segment. The MOCA guarantees obstacle clearance with limited signal coverage, and the MRA and MAA address reception and an upper limit. The MEA is the both-guarantees altitude.

37. A — A ceiling of 3,000 feet and 5 statute miles, holding through the window, satisfies the 1-2-3 rule (2,000 feet and 3 statute miles), so no alternate is required. Both parts are met. The 1-2-3 test applies to the destination forecast.

38. D — On a "descend via" clearance, the pilot must manage the descent to meet every published crossing restriction on the STAR. ATC does not assign each altitude individually, and the restrictions are not advisory or limited to the final fix. The pilot satisfies all of them in sequence.

39. B — Before relying on the localizer, the pilot must verify the Morse code identifier to confirm the correct, operating facility. Setting the DA, checking runway length, or noting the glide slope angle do not confirm facility identity. Positive identification is required.

40. D — A glide slope needle deflected above center means the glide path is above the aircraft, so the aircraft is below the path and should reduce its descent to recapture it. It does not mean the aircraft is above the path, a localizer failure, or passing the MAP. Fly toward the needle: needle high means fly up.

41. A — To land, the flight visibility must meet the published minimum AND a required visual reference must be distinctly in sight. Reaching the MDA alone, bright lights alone, or a centered glide slope alone do not permit a landing. Both visibility and a visual reference are required.

42. A — At a towered airport, the tower closes the IFR flight plan automatically upon observing the landing. The pilot need not phone flight service, the transponder does not close it, and it does not remain open. The tower handles closure at towered airports.

43. D — External pressure to reach the original destination is the "E" in PAVE — External pressures. It is not the Pilot, Aircraft, or enVironment element in this case. Naming the pressure explicitly is the defense against it.

44. B — "I can make this work" despite worsening weather is the macho hazardous attitude, countered by "Taking chances is foolish." The other options pair different attitudes with their antidotes. Macho overestimates personal capability against the conditions.

45. B — The vacuum failure was more dangerous in IMC because there is no outside horizon to replace the lost attitude reference, leaving the pilot vulnerable to disorientation. The vacuum system does not power radios, is not VMC-only, and does not drive the electrical load. The absence of a visual horizon is the reason.

46. A — The turn coordinator survived because it is typically driven by the electrical system, not the vacuum system. It does not share the vacuum source, run on ram air, or operate without power. Its separate electrical power is why it remained available.

47. B — Embedded thunderstorms are particularly hazardous because they are hidden within cloud and cannot be seen to be avoided. They are not weaker than visible storms, not confined to high altitude, and do produce turbulence and icing. Their invisibility is the danger.

48. B — A converging temperature–dew point spread indicates the air is approaching saturation, favoring cloud or fog. It does not indicate strong winds aloft, an unstable lapse rate, or improving visibility. Near-saturation warns of deteriorating conditions.

49. C — An alternate with only a non-precision approach carries a standard ceiling minimum of 800 feet (with 2 statute miles). The 600-foot figure applies to a precision approach. These standard values apply unless non-standard minimums are published.

50. C — The IFR fuel plan stacks destination, then alternate, then a 45-minute reserve. The reserve is always 45 minutes under IFR, the alternate leg is conditional, and the destination is never optional. This is the correct sequence.

51. D — On each lost-communication segment, the pilot flies the highest of the minimum, expected, and assigned altitudes. This ensures terrain clearance while remaining predictable to ATC. The "highest of" comparison is applied segment by segment.

52. C — The lost-communication route priority begins with the route assigned in the last ATC clearance (AVE-F). The pilot does not choose a self-judged direct route, ignore the assignment for the filed route, or divert to the nearest airport. Predictability for ATC governs.

53. C — Exceeding holding speed in wind-affected turns risks carrying the aircraft outside the protected airspace. It does not reset the transponder, double timing, become a precision approach, or extend the EFC. Loss of protected airspace is the risk.

54. A — Feeling rusty while legally current illustrates that currency is a regulatory recency minimum while proficiency is actual ability, and the two can differ. They are not identical, a current pilot is not automatically proficient, and proficiency does not expire on a fixed schedule. The distinction is between legal recency and real skill.

55. B — The altimeter and static system inspection must be completed within the preceding 24 calendar months for IFR flight. The transponder check shares the same interval. These are far longer cycles than the 30-day VOR check.

56. D — A VOR accuracy check for IFR use must be completed within the preceding 30 days. This short cycle reflects how quickly navigation precision can drift. It contrasts with the 24-month altimeter/static and transponder checks.

57. C — An inoperative required instrument must be addressed under the MEL or the deactivate-and-placard process before IFR flight. Merely logging it, forecast VMC, or GPS altitude do not legalize the flight. Required equipment must be operative or properly handled.

58. A — The unifying goal of single-pilot resource management is to anticipate and prepare, preserving reserve capacity for the unexpected — staying ahead of the aircraft. It does not eliminate ATC communication, rely solely on automation, or delegate navigation to passengers. Anticipation is the lone pilot's protection.

59. B — Briefing each approach early preserves reserve mental capacity for the high-workload final phase. It does not eliminate the missed approach, guarantee weather, or allow skipping the chart. Preserving capacity is the benefit.

60. C — Consistent with accident statistics, the day's safe outcome owed most to sound recognition, judgment, and decision-making rather than stick-and-rudder skill, avionics, or luck alone. Most instrument accidents stem from judgment failures, not flying ability. Recognition and decision-making are what most often separate a safe outcome from an accident.