PRACTICE EXAM 10 (60 QUESTIONS)

1. A pilot's instrument currency lapsed four calendar months ago. The pilot wishes to regain currency by flying the required tasks in actual or simulated instrument conditions. Within what overall period after the currency originally lapsed may the pilot still regain currency this way, before an instrument proficiency check becomes mandatory?

A. Through the end of the sixth calendar month after currency lapsed

B. Within 30 days of the lapse

C. There is no grace period; an IPC is required the moment currency lapses

D. Within 12 calendar months of the lapse

2. An altimeter and static system were last inspected and tested on June 10 of last year. For IFR flight, when does this inspection expire?

A. 30 days after the inspection date

B. 12 calendar months after the inspection

C. The end of June, 24 calendar months after the inspection

D. The exact anniversary date two years later

3. A pilot using a VOR for IFR navigation performs a dual VOR check, comparing two VOR receivers against each other. What is the maximum permissible bearing difference between the two units?

A. 4 degrees

B. 6 degrees

C. 10 degrees

D. 2 degrees

4. Which item is required equipment for IFR flight under 14 CFR 91.205 but not for day VFR flight?

A. An airspeed indicator

B. A magnetic compass

C. An anti-collision light system

D. A slip-skid indicator (inclinometer)

5. A pilot regaining instrument currency uses a view-limiting device in VMC. What is required for these approaches to count?

A. The approaches must be flown at a towered airport

B. The flight must be conducted at night

C. An instructor must endorse each approach

D. A qualified safety pilot must occupy the other control seat

6. A pilot's IFR GPS navigation database expired two days ago. The pilot intends to fly an RNAV (GPS) approach. What is the regulatory concern?

A. The database must be current for IFR approaches that depend on it

B. The database expiration only affects enroute navigation, not approaches

C. GPS approaches never require a current database

D. Only WAAS receivers require a current database

7. An aircraft is equipped per the GRABCARD requirements. What does the "G" represent?

A. A gyroscopic glideslope receiver

B. A generator or alternator of adequate capacity

C. A GPS receiver certified for IFR

D. A ground-proximity warning system

8. A pilot flying a glass cockpit loses the air data computer (ADC). Which instruments are most directly affected?

A. The standby magnetic compass and clock

B. The autopilot servos only

C. The transponder and ADS-B out

D. The displayed airspeed, altitude, and vertical speed derived from pitot-static data

9. A pilot must set the altimeter while climbing through 17,500 feet MSL toward a Class A cruising altitude. At what point and to what setting must the altimeter be changed?

A. Remain on the local setting throughout Class A operations

B. Set 30.00 inches Hg upon entering controlled airspace

C. Set 29.92 inches Hg at and above 18,000 feet MSL

D. Set the destination altimeter setting before climbing

10. A pilot reviewing required inspections recalls the AVIATES memory aid. Which interval applies to the transponder inspection for IFR (and ATC) operations?

A. Every 30 days

B. Every 12 calendar months

C. Every 100 hours

D. Every 24 calendar months

11. A pilot operating an aircraft with an inoperative item not required by regulation, the type certificate, or an AD, and lacking an MEL, proceeds under 14 CFR 91.213. What must be done with the inoperative item?

A. It must be repaired before any further flight

B. It may be left as-is with a logbook note only

C. The flight is prohibited until an MEL is obtained

D. It must be deactivated or removed and placarded "inoperative"

12. A pilot encounters a situation where the heading indicator has precessed 15 degrees from the magnetic compass during cruise. What is the correct action?

A. Disregard both instruments and fly by GPS track only

B. Adjust the magnetic compass to match the heading indicator

C. Realign the heading indicator to the compass during straight-and-level, unaccelerated flight

D. Continue without action, as precession is normal and self-correcting

13. A pilot reads a winds-aloft forecast group "7430-08." How is the wind speed decoded?

A. 04 knots

B. 30 knots

C. The direction is 074° and there is no speed

D. 74 knots, by subtracting 50 from the direction code and adding 100 to the speed

14. A pilot reviewing a METAR sees "TEMPO" is not used, but rather "10SM FEW250." What is the ceiling?

A. There is no ceiling

B. 25,000 feet

C. 10 statute miles

D. 250 feet

15. A pilot flying at FL220 must use which altimeter setting?

A. The nearest reporting station's local setting

B. The destination forecast setting

C. 29.92 inches Hg (standard)

D. 30.00 inches Hg

16. A pilot notices the aircraft's turn coordinator shows a standard-rate turn to the left, but the ball is deflected to the right of center. What does this indicate?

A. A coordinated standard-rate left turn

B. A slipping turn requiring less bank

C. A skidding turn; the aircraft needs more rudder into the turn or less bank

D. A failed turn coordinator gyro

17. A pilot must determine the usable range of a VOR at a given altitude. What concept defines this?

A. The slant-range correction factor

B. The reception cone angle

C. The Morse identification interval

D. The published standard service volume

18. A pilot reviewing approach equipment understands that a compass locator is associated with which component?

A. The glide slope transmitter

B. The DME transponder

C. The VASI lighting

D. A marker beacon at the outer or middle marker, using a low-power NDB

19. A pilot flying a localizer approach notes the localizer course width produces full-scale deflection at a much smaller angular displacement than a VOR. Approximately what full-scale angular width does a localizer typically represent on each side?

A. 10 degrees each side

B. About 2.5 degrees each side (roughly 5 degrees total)

C. 5 degrees each side

D. 1 degree each side

20. A pilot computes the time to a VOR station using the time-to-station method, flying perpendicular to the radial. After turning to place the station off the wingtip, the bearing changes 10 degrees in 2 minutes. What is the approximate time to the station?

A. 6 minutes

B. 12 minutes

C. 20 minutes

D. 2 minutes

21. A pilot operating into a Class C airport under IFR must have which equipment operative?

A. A DME and an ADF

B. A radar altimeter

C. A transponder with altitude reporting (Mode C)

D. A flight director and autopilot

22. A pilot flying an IFR flight at 8,000 feet wants to climb to 10,000 feet. Both are valid even-thousand altitudes for the westbound course being flown. What governs the actual altitude flown?

A. Pilot's discretion without ATC involvement

B. The VFR cruising rule of adding 500 feet

C. The minimum reception altitude only

D. The altitude assigned by ATC in the clearance

23. A pilot reads that an approach has a "circling MDA" of 1,200 feet and a "straight-in MDA" of 800 feet. When must the higher circling MDA be used?

A. Whenever the ceiling is reported below 1,000 feet

B. Only at night regardless of alignment

C. When the final approach course is not aligned to permit a straight-in landing and the pilot will circle to land

D. On every approach to that runway

23. continued — (formatting note: single question 23 above)

24. A pilot encounters an AIRMET Sierra along the route. What does it advise?

A. Severe icing hazardous to all aircraft

B. IFR conditions and mountain obscuration

C. Convective thunderstorm activity

D. Moderate turbulence and low-level wind shear

25. A pilot is determining whether the destination requires an alternate. The destination has no instrument approach procedure published. What does this require regarding an alternate?

A. No alternate is ever required for such destinations

B. An alternate is required, and the forecast must allow descent, approach, and landing under basic VFR

C. The destination cannot be used as an IFR destination

D. The 1-2-3 rule alone determines the requirement, ignoring the lack of an approach

26. A pilot reviewing the cold-temperature-restricted-airport concept understands that very cold temperatures require what?

A. An altitude correction added to published altitudes to preserve obstacle clearance

B. A reduction in published altitudes to account for denser air

C. No action, as altimeters self-correct for temperature

D. Use of pressure altitude only on the approach

27. A pilot computes the descent point to reach a crossing restriction. The aircraft must lose 6,000 feet at a planned descent rate of 1,000 feet per minute, with a groundspeed of 180 knots (3 NM per minute). How far before the fix must descent begin?

A. 6 NM

B. 18 NM

C. 12 NM

D. 30 NM

28. A pilot reads that a procedure turn must be completed within 10 NM of the fix. What else constrains the procedure turn?

A. It must be flown at exactly standard rate only

B. It must be completed within 5 minutes

C. It must be completed at or above the charted minimum altitude

D. It may only be flown in VMC

29. A pilot's transponder is squawking 1200 when an IFR clearance is received. What code should be set after ATC assigns one?

A. Remain on 1200 until airborne

B. Set 7600 as a default IFR code

C. Set the discrete code assigned by ATC in the clearance

D. Set 0000 to indicate IFR participation

30. A pilot flying a partial-panel approach after losing the attitude indicator must maintain a standard-rate turn. On the turn coordinator, where is the wing of the miniature aircraft positioned for a standard-rate turn?

A. At the full-deflection mark beyond the standard-rate index

B. Level, with no deflection

C. At twice the standard-rate index for safety margin

D. Aligned with the standard-rate index mark

31. A pilot reviews the difference between an MDA and a DA on the approach chart. On which approach type would the pilot expect to see a DA?

A. A VOR-only non-precision approach

B. A localizer (LOC) approach without glide slope

C. An NDB approach

D. An ILS or LPV approach with vertical guidance

32. A pilot flying an IFR departure must comply with a "climb to 2,000 before proceeding on course" instruction in an ODP. What is the purpose of this restriction?

A. To ensure obstacle clearance before turning toward the route

B. To establish radio contact with departure control

C. To allow time for the landing gear to retract

D. To comply with noise abatement procedures

33. A pilot reads that a navigation receiver must be checked for IFR VOR use within the preceding 30 days. What must be recorded for the check?

A. The date, place, bearing error, and signature of the person making the check

B. Only the date of the check

C. The aircraft total time and tach reading

D. The names of all occupants aboard

34. A pilot encounters a report of "PIREP: UA /OV ABC /TM 1830 /FL080 /TP C172 /TB MOD." What does the "/TB MOD" field convey?

A. Moderate precipitation at 8,000 feet

B. Moderate turbulence reported by the pilot

C. A moderate temperature deviation

D. Moderate braking action on the runway

35. A pilot must determine the highest altitude usable on an airway segment, above which navigation signal reception cannot be assured. Which minimum defines this?

A. The minimum enroute altitude (MEA)

B. The minimum crossing altitude (MCA)

C. The maximum authorized altitude (MAA)

D. The minimum reception altitude (MRA)

36. A pilot transitions from instrument to visual reference at the DA on an ILS in fog, then experiences difficulty judging height above the runway. Which illusion is most associated with a featureless approach in reduced visibility?

A. A tendency to fly a lower-than-normal approach due to the runway appearing farther or lower than it is

B. A sensation of excessive bank during the flare

C. The Coriolis illusion from head movement

D. A false climb sensation from deceleration

37. A pilot computes IFR fuel. The flight requires 2.0 hours to the destination, no alternate is required, at a burn rate of 10 gallons per hour, plus the required reserve. What minimum fuel is needed?

A. 16.5 gallons

B. 24.75 gallons

C. 22.0 gallons

D. 27.5 gallons

38. A pilot reads that the final approach segment of an RNAV (GPS) LPV approach provides angular guidance similar to a localizer and glide slope. To what minimum is the LPV flown?

A. A minimum descent altitude (MDA)

B. The circling minimum only

C. A decision altitude (DA)

D. A minimum reception altitude

39. A pilot flying through a region of rapidly building cumulus and showery precipitation with good visibility between showers should infer what about the air mass?

A. The air is stable, producing layered clouds

B. The air is unstable, producing convective activity and turbulence

C. A warm front is passing overhead

D. A temperature inversion is suppressing convection

40. A pilot must report which of the following to ATC when not in radar contact, but which is NOT required when in radar contact?

A. Reaching a compulsory reporting point

B. A loss of communication capability

C. A missed approach

D. An inability to climb at least 500 feet per minute

41. A pilot reviewing holding speed limits at 7,000 feet MSL must not exceed what maximum holding indicated airspeed for a typical civil aircraft?

A. 175 knots

B. 230 knots

C. 200 knots

D. 265 knots

42. A pilot flying a back-course localizer approach without an HSI must remember what about the CDI indications?

A. The glide slope must be followed inversely

B. The needle indications are reversed (fly away from the needle)

C. The DME readout will count up instead of down

D. The localizer frequency must be doubled

43. A pilot computes the wind correction angle needed. With a 90° crosswind component of 20 knots and a true airspeed of 120 knots, the approximate wind correction angle is found using the rule WCA ≈ crosswind component ÷ (TAS ÷ 60). What is the approximate WCA?

A. 10 degrees

B. 6 degrees

C. 15 degrees

D. 20 degrees

44. A pilot's aircraft enters known icing conditions. The aircraft is certificated for flight into known icing (FIKI). What does this certification provide?

A. Approved ice protection systems allowing continued operation within the system's limitations

B. Immunity from all icing-related performance loss

C. Authorization to fly into thunderstorms

D. A waiver from the visible-moisture requirement for icing

45. A pilot must brief the missed approach before beginning the approach. Where on the chart is the missed approach summarized in icon form for quick reference?

A. In the airport diagram at the bottom

B. Only in the plan view

C. In the briefing strip near the top of the chart

D. In the minimums table exclusively

46. A pilot flying an IFR cross-country must cross a fix where the MEA increases from 6,000 to 10,000. There is no MCA published. When may the pilot begin the climb?

A. Only after crossing the fix

B. The pilot must request a climb clearance for each 1,000 feet

C. The climb is prohibited without radar vectors

D. The pilot may begin the climb so as to cross the fix at or above the higher MEA, beginning before the fix as needed

47. A pilot encounters a localizer-type directional aid (LDA). How does it differ from a standard localizer?

A. It provides vertical guidance like an ILS

B. Its course is not aligned within 3 degrees of the runway centerline

C. It is always paired with DME

D. It is only usable in VMC

48. A pilot flying a non-precision approach with timing from the FAF has a groundspeed of 90 knots. The chart shows the FAF-to-MAP distance as 4.5 NM. What is the time to the MAP?

A. 2 minutes 30 seconds

B. 3 minutes

C. 4 minutes 30 seconds

D. 1 minute 30 seconds

49. A pilot reviewing the regulation on descent below DA/MDA recalls that one acceptable visual reference is the "runway threshold." Which of the following is also an acceptable visual reference under 14 CFR 91.175?

A. The approach light system

B. The airport beacon rotating in the distance

C. The control tower structure

D. A nearby highway with traffic

50. A pilot encounters an unexpected tailwind that increases groundspeed on final, steepening the required descent rate. On a precision approach, how is the glide slope maintained?

A. By increasing power to hold altitude

B. By disregarding the glide slope and using the VSI alone

C. By leveling off until the glide slope re-centers from above

D. By increasing the descent rate to stay on the electronic glide path

51. A pilot must identify the type of fog that forms when warm rain falls through a cooler layer of air near a warm front, raising the humidity to saturation. What is this called?

A. Precipitation-induced fog

B. Advection fog

C. Steam fog

D. Upslope fog

52. A pilot flying with an autopilot coupled to an ILS approach must monitor the flight mode annunciator. If the annunciator shows the approach mode is "armed" but not "captured" as the aircraft nears the localizer, what does this mean?

A. The autopilot has captured and is tracking the localizer

B. The autopilot is ready to capture but has not yet begun tracking the localizer

C. The approach mode has failed and must be reset

D. The aircraft will automatically land without further input

53. A pilot reads that an aircraft must not be operated below the minimum IFR altitude. In a non-mountainous area with no published minimum, what is that altitude?

A. 500 feet above the highest obstacle within 4 NM

B. 1,000 feet above the highest obstacle within 4 NM of the course

C. 2,000 feet above the highest obstacle within 4 NM

D. 1,000 feet above ground level regardless of obstacles

54. A pilot in a designated mountainous area with no published minimum IFR altitude must maintain what obstacle clearance?

A. 500 feet above the highest obstacle within 4 NM

B. 1,000 feet above the highest obstacle within 4 NM

C. 1,000 feet above the highest obstacle within 2 NM

D. 2,000 feet above the highest obstacle within 4 NM of the course

55. A pilot reviewing the IFR clearance reads back the route, altitude, frequency, and transponder code but omits the clearance limit. Why is reading back the clearance limit important?

A. It is optional and rarely affects the flight

B. It only matters for VFR flights

C. The clearance limit determines the transponder code

D. The clearance limit defines the point to which the aircraft is cleared, critical for lost-communication procedures

56. A pilot flying an approach with a published visual descent point (VDP) on a non-precision approach should understand the VDP as what?

A. The missed approach point itself

B. The final approach fix

C. The point from which a normal descent to landing may begin if the runway is in sight

D. The point at which the glide slope is intercepted

57. A pilot computes that 1.3 × V_SO for an aircraft equals 105 knots. Into which approach category does this place the aircraft?

A. Category B

B. Category A

C. Category C

D. Category D

58. A pilot reads a NOTAM that the glide slope for an ILS is out of service. What approach can still be flown using the remaining equipment?

A. A full ILS to Category I minimums

B. An LPV approach using the same facility

C. A localizer (LOC) approach to the localizer MDA

D. No approach is possible at that airport

59. A pilot encounters the somatogravic illusion's counterpart during a rapid deceleration in IMC. What false sensation results?

A. A sensation of rolling to the right

B. A sensation that the nose is pitching down

C. A sensation of accelerating forward

D. A sensation of yawing left

60. A pilot operating single-pilot IFR uses the "DECIDE" model to work a developing problem. What does the first step, "Detect," involve?

A. Recognizing that a change requiring attention has occurred

B. Choosing the best course of action immediately

C. Evaluating the outcome of an action already taken

D. Identifying solutions before defining the problem

+ Answer Key

1. A — A pilot whose instrument currency has lapsed may regain it by performing the required tasks in actual or simulated IMC through the end of the sixth calendar month after the currency lapsed. Beyond that grace window, an instrument proficiency check is mandatory. At four months lapsed, the pilot is still within the window.

2. C — The altimeter and static system check is valid for 24 calendar months, expiring at the end of the month two years later—here, the end of June. Calendar-month inspections run through the last day of the expiring month, not the exact anniversary date.

3. D — When comparing two VOR receivers in a dual VOR check, the maximum permissible bearing difference between the units is 4 degrees. This cross-check confirms both receivers are accurate enough for IFR navigation.

4. C — The slip-skid indicator (inclinometer/ball) is required for IFR under 14 CFR 91.205 but is not among the day-VFR-required instruments. The airspeed indicator, magnetic compass, and anti-collision

light system are all required for day VFR, so the ball is the only listed item unique to the IFR requirement. Coordinated flight by the ball is essential when maneuvering solely by reference to instruments.

5. D — Approaches flown under a view-limiting device in VMC require a qualified safety pilot in the other control seat to watch for traffic. The safety pilot makes the simulated-instrument operation legal and safe, allowing the approaches to count toward currency.

6. A — The navigation database must be current for IFR approaches that depend on it, because procedures, waypoints, and altitudes change. An expired database can present incorrect approach data, so an RNAV (GPS) approach should not be flown on it.

7. B — In the GRABCARD memory aid, "G" stands for a generator or alternator of adequate capacity, required for IFR under 14 CFR 91.205. The electrical source is essential to power the radios and electric instruments needed in IMC.

8. D — The air data computer processes pitot-static information, so its loss directly affects the displayed airspeed, altitude, and vertical speed. The AHRS, by contrast, handles attitude and heading, which is why glass cockpits carry independent backup instruments.

9. C — At and above 18,000 feet MSL (Class A), all aircraft set the standard altimeter setting of 29.92 inches Hg, placing everyone on pressure altitude/flight levels. Below 18,000 feet the local setting is used.

10. D — The transponder inspection for IFR and ATC operations is required every 24 calendar months, the same interval as the altimeter/static system check. Both are biennial calendar-month inspections under the AVIATES grouping.

11. D — Under 91.213 without an MEL, an inoperative item not required by regulation, the type certificate, or an AD must be deactivated or removed and placarded "inoperative." This deferral process allows continued flight without ignoring the discrepancy.

12. C — The heading indicator must be realigned to the magnetic compass during straight-and-level, unaccelerated flight, because the compass is reliable only in that condition. Precession drift is normal and requires periodic realignment, not adjusting the compass.

13. D — A winds-aloft code with a direction value above 36 means 50 was added to the direction and 100 added to the speed; "7430" decodes as direction 240° (74−50) at 130 knots (30+100). Winds aloft use this encoding whenever speed exceeds 100 knots.

14. A — A FEW layer (FEW250) is not a ceiling, so with only "10SM FEW250" there is no ceiling reported. A ceiling exists only with a broken or overcast layer or a vertical visibility into an obscuration.

15. C — At FL220, the pilot uses the standard altimeter setting of 29.92 inches Hg, because all flight levels (at and above 18,000 feet MSL) operate on pressure altitude. Flight levels are defined by this common reference.

16. C — A standard-rate left turn with the ball deflected right indicates a skidding turn; the aircraft needs more rudder into the turn or less bank to coordinate. The ball away from center toward the outside of the turn is the signature of a skid.

17. D — The published standard service volume defines the usable range of a VOR at given altitudes. Reception beyond the service volume is not assured and may be unreliable due to line-of-sight and interference limits.

18. D — A compass locator is a low-power NDB co-located with a marker beacon (outer or middle marker) on an ILS, providing a transition fix and ADF guidance. It supplements the marker's position information.

19. B — A localizer is typically tailored so full-scale deflection occurs at about 2.5 degrees each side of centerline (roughly 5 degrees total), making it far more sensitive than a VOR's 10-degree full-scale. This sensitivity demands small, smooth corrections on final.

20. B — Using the time-to-station method, time to station (minutes) = 60 × minutes flown ÷ degrees of bearing change = 60 × 2 ÷ 10 = 12 minutes. The technique estimates distance/time from the rate of bearing change abeam the station.

21. C — IFR operations into Class C airspace require an operative transponder with altitude reporting (Mode C). The transponder enables radar identification and altitude readout for separation services.

22. D — When multiple cruising altitudes are legal for the course, the actual altitude flown under IFR is the one assigned by ATC in the clearance. IFR aircraft fly assigned altitudes, not pilot-selected ones, in controlled airspace.

23. C — The higher circling MDA is used when the final approach course is not aligned to permit a straight-in landing and the pilot will circle to land. Circling minimums protect the visual maneuvering area, which requires more obstacle clearance than a straight-in.

24. B — AIRMET Sierra advises IFR conditions and mountain obscuration. The companion AIRMETs are Tango (turbulence) and Zulu (icing/freezing levels).

25. B — When the destination has no published instrument approach, an alternate is required, and its forecast must allow descent from the MEA, approach, and landing under basic VFR. The lack of an approach makes an alternate mandatory regardless of the 1-2-3 ceiling/visibility test.

26. A — At very cold temperatures, an altitude correction must be added to published altitudes to preserve obstacle clearance, because true altitude is lower than indicated in cold air. Cold-temperature-restricted airports list the correction to apply.

27. B — The descent is 6,000 feet at 1,000 fpm, taking 6 minutes; at 3 NM/min, 6 minutes covers 18 NM, so descent must begin 18 NM before the fix. Matching descent time to groundspeed yields the top-of-descent distance.

28. C — A procedure turn must be completed within the charted distance (commonly 10 NM) and at or above the charted minimum altitude. The altitude floor guarantees obstacle clearance throughout the reversal.

29. C — After ATC assigns a discrete code in the clearance, the pilot sets that assigned code, replacing the VFR 1200. The discrete code lets ATC radar identify and track the specific IFR flight.

30. D — For a standard-rate turn, the wing of the turn coordinator's miniature aircraft is aligned with the standard-rate index mark. This index corresponds to 3° per second, the benchmark instrument turn rate.

31. D — A Decision Altitude appears on approaches with vertical guidance—an ILS or an LPV. Non-precision approaches (VOR, LOC, NDB) use a Minimum Descent Altitude instead.

32. A — A "climb to 2,000 before proceeding on course" restriction in an ODP exists to ensure obstacle clearance before the aircraft turns toward the route. ODPs are built around terrain and obstacles, so the initial climb protects the turn.

33. A — The IFR VOR check record must include the date, place, bearing error, and the signature of the person making the check. This documentation confirms the check was performed within the preceding 30 days.

34. B — In a PIREP, the "/TB" field reports turbulence, so "/TB MOD" conveys moderate turbulence experienced by the reporting pilot. PIREPs use standardized field codes (OV location, FL altitude, TP aircraft type, TB turbulence, etc.).

35. C — The maximum authorized altitude (MAA) is the highest altitude usable on a segment, above which navigation signal reception cannot be assured due to potential interference. It caps the usable vertical range of the airway.

36. A — A featureless or low-visibility approach tends to make the runway appear farther away or lower than it is, inducing a lower-than-normal approach path. Recognizing this illusion helps the pilot avoid descending dangerously low on final.

37. D — With no alternate required, the fuel must cover the destination plus a 45-minute reserve: 2.0 hr + 0.75 hr = 2.75 hr × 10 gph = 27.5 gallons. The 45-minute IFR reserve is added to the time enroute before applying the burn rate, and the requirement always exceeds the destination-only burn.

38. C — An LPV approach provides angular lateral and vertical guidance similar to an ILS and is flown to a Decision Altitude. Despite resembling a precision approach, it is classified as an approach with vertical guidance (APV), still using a DA.

39. B — Rapidly building cumulus, showery precipitation, and good visibility between showers indicate unstable air producing convective activity and turbulence. Cumuliform development and showers are the hallmarks of instability.

40. A — Reaching a compulsory reporting point must be reported when not in radar contact but is not required in radar contact, since radar shows ATC the position. Loss of communication, a missed approach, and inability to maintain 500 fpm are required at all times.

41. C — At 7,000 feet MSL, the maximum holding airspeed for a typical civil aircraft is 200 knots indicated (applicable from 6,001 through 14,000 feet). Holding speed limits keep the pattern within protected airspace.

42. B — On a back-course localizer without an HSI, the CDI indications are reversed, so the pilot must fly away from the needle to correct. An HSI eliminates this reverse sensing by slaving the display to heading.

43. A — Using WCA ≈ crosswind ÷ (TAS ÷ 60) = 20 ÷ (120 ÷ 60) = 20 ÷ 2 = 10 degrees. The rule estimates the crab angle needed to hold track against the crosswind component.

44. A — FIKI certification means the aircraft has approved ice protection systems allowing continued operation within those systems' limitations. It does not eliminate icing performance loss or authorize flight into thunderstorms.

45. C — The missed approach is summarized in icon form in the briefing strip near the top of the approach chart for quick reference. Briefing it before the approach ensures the go-around is flown without hesitation.

46. D — With no MCA published, the pilot may begin the climb before the fix as needed so as to cross it at or above the higher MEA. Starting the climb early ensures the higher minimum is met by the fix while maintaining obstacle clearance.

47. B — A localizer-type directional aid (LDA) has a course not aligned within 3 degrees of the runway centerline, distinguishing it from a standard localizer. Because of the offset, many LDA approaches are circling-only or have higher minimums.

48. B — At 90 knots groundspeed (1.5 NM/min), 4.5 NM takes 4.5 ÷ 1.5 = 3 minutes to the MAP. Timing from the FAF identifies the MAP when no fix, DME, or GPS waypoint defines it.

49. A — The approach light system is an acceptable visual reference under 14 CFR 91.175 for descending below DA/MDA, subject to the 100-foot restriction for the lights alone. An airport beacon, tower structure, or highway are not listed visual references.

50. D — On a precision approach, an increased descent rate is used to stay on the electronic glide path when a tailwind raises groundspeed. The pilot follows the glide slope indication, adjusting descent rate (primarily via pitch and power) to keep it centered.

51. A — Precipitation-induced fog forms when warm rain falls through a cooler layer near a warm front, saturating the air. It is commonly associated with the steady precipitation ahead of warm fronts.

52. B — An approach mode "armed" but not "captured" means the autopilot is ready to capture the localizer but has not yet begun tracking it. The annunciator will change to "captured" once the aircraft intercepts and the autopilot engages tracking.

53. B — In a non-mountainous area with no published minimum, the minimum IFR altitude is 1,000 feet above the highest obstacle within 4 NM of the course. This guarantees terrain and obstacle clearance enroute.

54. D — In a designated mountainous area with no published minimum, the requirement is 2,000 feet above the highest obstacle within 4 NM of the course. The larger margin accounts for rugged terrain and downdrafts.

55. D — The clearance limit defines the point to which the aircraft is cleared and is critical for lost-communication procedures, where it determines how far the aircraft proceeds before further action. Reading it back confirms pilot and controller agree on this point.

56. C — A visual descent point (VDP) on a non-precision approach is the point from which a normal descent to landing may begin if the runway is in sight. Descending before the VDP risks an unstable or premature descent.

57. A — A 1.3 × V_SO of 105 knots falls in the 91–120-knot range, placing the aircraft in Category B. The approach category is set by this computed approach speed.

58. C — With the glide slope out of service, the localizer remains usable, so a localizer (LOC) approach can be flown to the localizer MDA. Losing vertical guidance downgrades the ILS to a non-precision approach.

59. B — A rapid deceleration in IMC produces the somatogravic illusion's counterpart: a false sensation that the nose is pitching down, tempting an unwanted nose-up input. Like its acceleration counterpart, it arises from the inner ear misreading linear forces as pitch changes.

60. A — In the DECIDE model, the first step, "Detect," involves recognizing that a change requiring attention has occurred. Detection precedes estimating significance, choosing an outcome, identifying actions, doing, and evaluating.