PRACTICE EXAM 17 (60 QS)

1. A private pilot may act as pilot-in-command of an aircraft carrying passengers only if, within the preceding 90 days, the pilot has made at least:

A. One takeoff and landing

B. Three takeoffs and three landings

C. Five takeoffs and five landings

2. Before each flight, the pilot-in-command is required to:

A. Notify ATC of the intended route

B. File a flight plan regardless of conditions

C. Become familiar with all available information concerning that flight

3. A wing produces lift primarily through:

A. A pressure difference and the downward deflection of air

B. The propeller forcing air over the tail

C. Centrifugal force from the spinning engine

4. Adverse yaw during the entry to a turn is correctly counteracted by:

A. Coordinated rudder in the direction of the turn

B. Opposite aileron only

C. A reduction in power

5. The first indication of carburetor ice in an airplane with a fixed-pitch propeller is usually:

A. A rise in oil temperature

B. A gradual loss of RPM

C. An increase in manifold pressure

6. During a complete electrical failure, the engine continues to run because:

A. The magnetos are self-powered and independent of the electrical system

B. The battery directly powers the spark plugs

C. The alternator switches to a backup circuit

7. When the altimeter is set to 29.92 in. Hg, it displays:

A. True altitude

B. Absolute altitude

C. Pressure altitude

8. The vertical speed indicator is subject to a characteristic:

A. Lag, because it measures the rate of static-pressure change

B. Instantaneous and lead-free response

C. Direct display of pitch attitude

9. Around a Northern Hemisphere low-pressure system, the air:

A. Sinks and diverges, producing fair weather

B. Moves straight inward without rotation

C. Rises and converges, forming clouds and precipitation

10. Unstable air is most associated with:

A. Smooth air and layered clouds

B. Steady drizzle and haze

C. Cumuliform clouds, showers, and turbulence

11. A METAR reporting a temperature and dew point that are very close together indicates:

A. Strong, gusty winds aloft

B. A high likelihood of fog or low clouds

C. Rapidly clearing skies

12. AIRMET Sierra provides information about:

A. Turbulence and strong surface winds

B. IFR conditions and mountain obscuration

C. Icing and freezing levels

13. A ceiling is the height above the surface of the lowest layer reported as:

A. Broken or overcast

B. Few or scattered

C. Any visible moisture

14. Entry into Class B airspace requires:

A. Only that two-way communication be established

B. A specific clearance to enter

C. Squawking 1200 while remaining clear of clouds

15. A flashing white light gun signal to an aircraft on the ground means:

A. Cleared for takeoff

B. Stop

C. Return to the starting point on the airport

16. A VOR radial is defined as a magnetic course measured:

A. Toward the station

B. From the station

C. Relative to the aircraft's nose

17. To hold a desired ground track in a crosswind, the pilot must:

A. Fly a heading equal to the course

B. Increase airspeed to overpower the wind

C. Crab into the wind by a correction angle

18. Density altitude is best defined as:

A. Pressure altitude corrected for nonstandard temperature

B. The altitude read with the local altimeter setting

C. The aircraft's height above the terrain

19. Best rate of climb speed (V_Y) provides the:

A. Greatest altitude gain over the shortest distance

B. Slowest controllable airspeed

C. Greatest altitude gain in the least time

20. A loading that is within maximum gross weight but with the CG aft of the rearward limit is:

A. Legal, since weight is the controlling factor

B. Illegal and must be corrected before flight

C. Legal, because CG limits are advisory

21. An early and dangerous symptom of hypoxia is:

A. Euphoria and impaired judgment

B. Sudden sharp chest pain

C. Immediate loss of consciousness

22. Spatial disorientation is most reliably overcome by:

A. Trusting inner-ear sensations

B. Making rapid head movements to reorient

C. Trusting and flying by the instruments

23. The minimum fuel reserve for a day VFR flight is enough to reach the first point of intended landing plus:

A. 30 minutes at normal cruise power

B. 45 minutes at normal cruise power

C. 60 minutes at maximum endurance

24. Upon a complete engine failure, the pilot's first action is to:

A. Transmit a distress call immediately

B. Establish best glide speed

C. Engage the starter at full throttle

25. A VFR flight plan provides:

A. Search-and-rescue protection, not ATC separation

B. Positive separation from all traffic

C. Automatic clearance into controlled airspace

26. A private pilot may share the operating expenses of a flight with passengers only if the pilot pays:

A. None of the cost

B. At least a pro rata share

C. Exactly half regardless of the number aboard

27. A flight review, required to act as pilot-in-command, must be completed within the preceding:

A. 12 calendar months

B. 36 calendar months

C. 24 calendar months

28. When two aircraft of the same category are converging at the same altitude, right-of-way belongs to the aircraft:

A. To the other's right

B. At the higher altitude

C. Traveling faster

29. Maneuvering speed (V_A) as the aircraft's weight decreases:

A. Increases

B. Remains unchanged

C. Decreases

30. Wake turbulence is most severe behind an aircraft that is:

A. Heavy, clean, and slow

B. Light, dirty, and fast

C. Idling on the ground

31. A warm front typically brings:

A. A narrow band of violent weather and rapid clearing

B. Gusty winds with towering cumulus

C. Widespread layered clouds, steady rain, and low ceilings

32. The dew point is the temperature to which air must be:

A. Heated to evaporate its moisture

B. Cooled to become saturated

C. Compressed to release latent heat

33. A steady green light gun signal to an aircraft in flight means:

A. Return for landing

B. Give way and continue circling

C. Cleared to land

34. The color of 100LL aviation fuel is:

A. Blue

B. Green

C. Red

35. A forward center of gravity makes an airplane:

A. Less stable with a lower stall speed

B. More stable with a higher stall speed

C. Unaffected in both stability and stall speed

36. The standard traffic pattern, unless otherwise indicated, uses:

A. Right turns

B. Straight-in approaches only

C. Left turns

37. Supplemental oxygen must be used by the required minimum flight crew at cabin pressure altitudes above 12,500 feet MSL after:

A. Becoming immediately mandatory with no time allowance

B. A period of 30 minutes

C. Reaching 10,000 feet only

38. A transponder code of 7500 indicates:

A. A radio communication failure

B. A general emergency

C. A hijacking

39. Lift increases with the square of which variable?

A. Airspeed

B. Aircraft weight

C. Air temperature

40. A "hot" Restricted Area may be entered only:

A. By squawking the VFR code

B. At night when activity ceases

C. With permission from the controlling agency

41. The minimum safe altitude over a congested area is 1,000 feet above the highest obstacle within a horizontal radius of:

A. 2,000 feet

B. 1,000 feet

C. 500 feet

42. Induced drag is greatest at:

A. Low airspeed and high angle of attack

B. High airspeed in cruise

C. The never-exceed speed

43. A temperature inversion typically produces:

A. Strong convective turbulence

B. Smooth, stable air with restricted visibility

C. Rapid clearing and unlimited visibility

44. A pilot leans the mixture at altitude primarily to:

A. Increase fuel flow for more power

B. Restore the proper fuel-air ratio as air density decreases

C. Cool the engine by adding fuel

45. Aircraft position lights are arranged as:

A. White on both wingtips and red on the tail

B. Green on the left and red on the right

C. Red on the left, green on the right, white on the tail

46. Converting a true heading to magnetic with easterly variation requires the pilot to:

A. Add the variation

B. Subtract the variation

C. Disregard the variation

47. The mature stage of a thunderstorm is the most hazardous because it contains:

A. Both updrafts and downdrafts with heavy precipitation

B. Only gentle, steady updrafts

C. No precipitation at all

48. An annual inspection is required for all aircraft within the preceding:

A. 24 calendar months

B. 12 calendar months

C. 100 hours of operation

49. A blocked pitot tube (ram and drain blocked) causes the airspeed indicator to:

A. Drop immediately to zero

B. Read correctly with no error

C. Behave like an altimeter, rising in a climb

50. The "IM SAFE" checklist is used to evaluate the:

A. Aircraft's airworthiness

B. Fuel and route planning

C. Pilot's personal fitness for flight

51. A pilot encountering deteriorating VFR weather should:

A. Climb into the clouds and continue on instruments

B. Divert, turn back, or land while still in visual conditions

C. Descend lower to stay beneath the clouds

52. Stall speed increases with all of the following EXCEPT:

A. A decrease in load factor

B. An increase in aircraft weight

C. Wing contamination by ice

53. A standard weather briefing should be requested when a pilot:

A. Needs only to update a previous briefing

B. Has received no prior weather information for the flight

C. Plans to depart more than six hours later

54. In a coordinated level turn at 60° of bank, the load factor is approximately:

A. 2.0 G

B. 1.0 G

C. 4.0 G

55. The required minimum documents aboard for a domestic flight do NOT include the:

A. Radio station license

B. Airworthiness certificate

C. Registration certificate

56. A pilot recognizing "get-there-itis" in themselves should:

A. Increase speed to reach the destination sooner

B. Continue despite the warning signs

C. Be willing to divert, delay, or cancel the flight

57. A vacuum pump failure will render unreliable the:

A. Airspeed indicator and altimeter

B. Attitude indicator and heading indicator

C. Magnetic compass and tachometer

58. To preserve night vision, a pilot should:

A. Use red or dim cockpit lighting and avoid bright lights

B. Use bright white floodlighting continuously

C. Stare directly at distant light sources

59. A pilot should realign the heading indicator with the magnetic compass during:

A. A standard-rate turn

B. Straight-and-level, unaccelerated flight

C. Acceleration on the takeoff roll

60. The minimum passing score on the FAA Private Pilot Airplane knowledge test is:

A. 80 percent

B. 75 percent

C. 70 percent

Answer Key

1. B — To carry passengers, a pilot must have made at least three takeoffs and three landings within the preceding 90 days. At night these landings must be to a full stop.

2. C — Before each flight, the pilot-in-command must become familiar with all available information concerning that flight. This regulatory duty underlies thorough preflight planning.

3. A — A wing produces lift through a pressure difference between its surfaces and the downward deflection of air, combining Bernoulli's principle and Newton's third law. Both effects contribute to the upward force.

4. A — Adverse yaw is counteracted by applying coordinated rudder in the direction of the turn. The downward-deflected aileron creates extra drag that yaws the nose away from the turn, which rudder offsets.

5. B — The first indication of carburetor ice in a fixed-pitch propeller airplane is a gradual loss of RPM. A constant-speed propeller would instead show a loss of manifold pressure.

6. A — The engine continues running through a complete electrical failure because the magnetos are self-powered and independent of the electrical system. This design ensures ignition regardless of battery or alternator status.

7. C — Setting the altimeter to the standard datum of 29.92 in. Hg makes it display pressure altitude. Correcting that for temperature yields density altitude.

8. A — The vertical speed indicator has inherent lag because it measures the rate of static-pressure change over time. It confirms a stabilized climb or descent rate rather than leading a pitch change.

9. C — Around a Northern Hemisphere low, the air rises and converges, forming clouds and precipitation. A high, by contrast, has sinking, diverging air that produces fair weather.

10. C — Unstable air is associated with cumuliform clouds, showers, and turbulence, usually with good visibility between showers. It encourages vertical motion, producing puffy, vertically developed clouds.

11. B — A temperature and dew point that are very close together indicate air near saturation and a high likelihood of fog or low clouds. As the spread narrows toward zero, visible moisture becomes likely.

12. B — AIRMET Sierra provides information about IFR conditions and mountain obscuration. Tango covers turbulence and Zulu covers icing.

13. A — A ceiling is the height of the lowest layer reported as broken or overcast, meaning more than half the sky is covered. Few and scattered layers do not constitute a ceiling.

14. B — Entry into Class B airspace requires a specific clearance to enter, such as "cleared into Bravo." Merely establishing communication, which suffices for Class C and D, is not enough.

15. C — A flashing white light gun signal to an aircraft on the ground means return to the starting point on the airport. It directs the aircraft back to where it began on the field.

16. B — A VOR radial is a magnetic course measured from the station, with 360 radials radiating outward. The CDI shows displacement from the selected radial.

17. C — To hold a desired ground track in a crosswind, the pilot crabs into the wind by a wind correction angle. Flying a heading equal to the course would let the wind push the airplane off track.

18. A — Density altitude is pressure altitude corrected for nonstandard temperature, representing air density as an altitude. Aircraft performance corresponds to density altitude, not field elevation.

19. C — Best rate of climb speed (V_Y) provides the greatest altitude gain in the least time. Best angle (V_X), by contrast, gives the most altitude over the shortest horizontal distance.

20. B — A loading within max weight but with the CG aft of the rearward limit is illegal and must be corrected before flight. Both weight and balance must be within published limits.

21. A — An early and dangerous symptom of hypoxia is euphoria and impaired judgment, which mask the danger. The victim often feels fine and fails to recognize the need for oxygen.

22. C — Spatial disorientation is most reliably overcome by trusting and flying by the instruments rather than misleading inner-ear sensations. Believing the instruments is essential when outside references are lost.

23. A — Day VFR fuel rules require enough fuel to reach the first point of intended landing plus 30 minutes at normal cruise power. Night VFR requires a larger 45-minute reserve.

24. B — Upon a complete engine failure, the pilot's first action is to establish best glide speed, maximizing the distance and time available to reach a landing site. Only then does the pilot select a site and attempt a restart.

25. A — A VFR flight plan provides search-and-rescue protection, not ATC separation. It is tracked only so that a search begins if the aircraft becomes overdue.

26. B — A private pilot may share operating expenses only if the pilot pays at least a pro rata share. Paying less would amount to flying for compensation, which private privileges prohibit.

27. C — A flight review must be completed within the preceding 24 calendar months to act as pilot-in-command. It consists of at least one hour of ground and one hour of flight training.

28. A — When two aircraft of the same category converge at the same altitude, the aircraft to the other's right has the right-of-way. The pilot who sees converging traffic on the left must give way.

29. C — Maneuvering speed decreases as aircraft weight decreases, because a lighter airplane reaches its limiting load factor at a lower speed. The appropriate V_A is therefore lower when lightly loaded.

30. A — Wake turbulence is most severe behind a heavy, clean, and slow aircraft, the configuration of a large jet on takeoff or approach. This combination generates the most intense wingtip vortices.

31. C — A warm front brings widespread layered clouds, steady rain, and low ceilings over a large area for an extended time. Its slow movement spreads poor conditions broadly.

32. B — The dew point is the temperature to which air must be cooled to become saturated, at which moisture condenses into visible form. A small temperature/dew-point spread signals air near saturation.

33. C — A steady green light gun signal to an aircraft in flight means cleared to land. The same steady green on the ground means cleared for takeoff.

34. A — The color of 100LL aviation fuel is blue. Grade 80 is red and grade 100 is green, and using the wrong fuel can be catastrophic.

35. B — A forward center of gravity makes the airplane more stable but raises the stall speed, because the tail must produce more downforce. It also increases approach and landing speeds.

36. C — The standard traffic pattern uses left turns unless otherwise indicated by charts or a segmented circle. A right-hand pattern is used where terrain, obstacles, or noise abatement require it.

37. B — Between 12,500 and 14,000 feet MSL cabin pressure altitude, the required minimum flight crew must use supplemental oxygen after 30 minutes at those altitudes. Above 14,000 feet, oxygen is required continuously.

38. C — A transponder code of 7500 indicates a hijacking—"seven-five, taken alive." The other emergency codes are 7600 for lost comms and 7700 for a general emergency.

39. A — Lift increases with the square of airspeed, so doubling speed roughly quadruples lift. This squared relationship explains why small airspeed changes have large effects.

40. C — A "hot" Restricted Area may be entered only with permission from the controlling agency. Hazardous activity such as live fire makes unauthorized entry dangerous.

41. A — The minimum safe altitude over a congested area is 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet. This provides margin for an emergency landing clear of people and property.

42. A — Induced drag is greatest at low airspeed and high angle of attack, where the wingtip vortices are strongest. It decreases as airspeed increases.

43. B — A temperature inversion traps moisture and pollutants beneath a warm layer, producing smooth but stable air with restricted visibility. The stable layer suppresses turbulence and convective clouds.

44. B — Leaning the mixture at altitude restores the proper fuel-air ratio as air density decreases. Without leaning, the mixture becomes excessively rich, causing roughness and plug fouling.

45. C — Aircraft position lights are red on the left wingtip, green on the right wingtip, and white on the tail. This arrangement lets a pilot determine another aircraft's direction of travel at night.

46. B — Converting a true heading to magnetic with easterly variation requires subtracting the variation, per "east is least." Westerly variation, by contrast, is added.

47. A — The mature stage is most hazardous because it contains both updrafts and downdrafts with heavy precipitation, lightning, and the greatest turbulence. The onset of rain reaching the surface marks this phase.

48. B — An annual inspection is required for all aircraft within the preceding 12 calendar months. Unlike the 100-hour inspection, the annual applies regardless of how the aircraft is operated.

49. C — A blocked pitot tube (ram and drain) makes the airspeed indicator behave like an altimeter, rising in a climb and falling in a descent. The trapped pressure responds to ambient changes rather than airspeed.

50. C — The IM SAFE checklist (Illness, Medication, Stress, Alcohol, Fatigue, Emotion) evaluates the pilot's personal fitness for flight. It is a self-assessment as important as the aircraft checklist.

51. B — A pilot encountering deteriorating VFR weather should divert, turn back, or land while still in visual conditions. Continuing into reduced visibility risks disorientation and loss of control.

52. A — Stall speed increases with greater weight, higher load factor, and wing contamination, but a decrease in load factor lowers stall speed. Reducing load factor reduces the speed at which the critical angle is reached.

53. B — A standard weather briefing should be requested when the pilot has received no prior weather information for the flight. It provides the complete picture for a go/no-go decision.

54. A — In a coordinated level turn at 60° of bank, the load factor is approximately 2.0 G. Load factor rises sharply beyond 60°, reaching nearly 4 G at 75°.

55. A — The radio station license is not required for a domestic flight, only for international operations. The airworthiness certificate, registration, operating limitations, and weight-and-balance data must always be aboard.

56. C — A pilot recognizing get-there-itis should be willing to divert, delay, or cancel the flight for safety. The decision not to press on is always available and never wrong when made for safety.

57. B — A vacuum pump failure renders unreliable the vacuum-driven attitude indicator and heading indicator. The electric turn coordinator remains available as a backup.

58. A — To preserve night vision, the pilot uses red or dim cockpit lighting and avoids bright lights that destroy dark adaptation. Bright white light can erase 30 minutes of adaptation in an instant.

59. B — The heading indicator should be realigned with the magnetic compass during straight-and-level, unaccelerated flight, when the compass reads accurately. Turning or accelerating introduces compass errors.

60. C — The minimum passing score on the FAA Private Pilot Airplane knowledge test is 70 percent, which is 42 of the 60 scored questions. This is the standard passing threshold for the PAR exam.