PRACTICE EXAM 31 SIMULATION

1. To act as PIC under IFR, a pilot must hold an instrument rating and meet the recency requirements of:

A. 91.205

B. 61.57

C. 91.171

D. 61.65

2. The required IFR instruments and equipment are listed in:

A. 91.205

B. 61.57

C. 91.171

D. 61.65

3. A blocked static port causes the altimeter to:

A. Read continuously increasing

B. Drop to zero

C. Read correctly

D. Freeze at the altitude of the blockage

4. After a vacuum failure, the pilot controls bank using the:

A. Failed attitude indicator

B. Failed heading indicator

C. Vertical speed indicator

D. Turn coordinator

5. A wing always stalls when it exceeds its:

A. Maximum airspeed

B. Service ceiling

C. Critical angle of attack

D. Maximum weight

6. A standard-rate turn produces a heading change of:

A. 3 degrees per second

B. 1 degree per second

C. 6 degrees per second

D. 1.5 degrees per second

7. The primary instrument for pitch in level flight at a constant altitude is the:

A. Attitude indicator

B. Altimeter

C. Vertical speed indicator

D. Airspeed indicator

8. A temperature-dew point spread that is small indicates:

A. Possible fog or low cloud formation

B. Clear skies

C. High winds

D. Thunderstorms

9. A METAR reports:

A. A terminal forecast

B. Winds aloft

C. An area forecast

D. Observed surface weather

10. An AIRMET Zulu concerns:

A. Turbulence

B. Icing and freezing levels

C. IFR conditions

D. Strong winds

11. A VOR radial is a magnetic course measured:

A. From the station

B. Toward the station

C. Relative to the nose

D. From true north

12. DME measures which type of distance?

A. Horizontal ground distance

B. Great-circle distance

C. Slant-range distance

D. True-north distance

13. An LPV approach provides lateral and vertical guidance to a:

A. Minimum descent altitude

B. Decision altitude

C. Circling altitude

D. Maximum altitude

14. The localizer course is more sensitive than a VOR by a factor of about:

A. Two

B. One-half

C. Ten

D. Four

15. A standard holding pattern uses turns in which direction?

A. Left

B. Alternating

C. Right

D. No turns

16. At or below 14,000 feet MSL, the inbound leg of a standard hold is timed for:

A. 30 seconds

B. 1 minute

C. 45 seconds

D. 2 minutes

17. An Obstacle Departure Procedure (ODP) primarily provides:

A. Traffic sequencing

B. Obstacle clearance on departure

C. A simplified clearance

D. Noise abatement

18. The standard climb gradient assumed by an ODP, unless higher is published, is:

A. 152 ft/NM

B. 300 ft/NM

C. 200 ft/NM

D. 500 ft/NM

19. The MEA guarantees:

A. Obstacle clearance only

B. Navigation signal only

C. Both obstacle clearance and navigation signal for the segment

D. Radar coverage

20. An IFR cruising altitude on a magnetic course of 090 below 18,000 feet is:

A. Even thousands

B. Odd thousands

C. Even thousands plus 500

D. Odd thousands plus 500

21. The Final Approach Fix on a non-precision approach profile is depicted by a:

A. Lightning bolt

B. Holding racetrack

C. Solid triangle

D. Maltese cross

22. On a non-precision approach, the pilot descends to but never below the:

A. Decision altitude

B. Glide slope intercept

C. Minimum Descent Altitude

D. Circling radius

23. To descend below DA/MDA under 91.175, how many conditions must all be met?

A. Three

B. Two

C. One

D. Four

24. A circling MDA is higher than a straight-in MDA because the maneuver:

A. Uses a glide slope

B. Is flown faster

C. Has no protected area

D. Requires low-altitude maneuvering with greater obstacle protection

25. Spatial disorientation is best overcome by:

A. Relying on bodily sensations

B. Closing the eyes

C. Trusting the flight instruments

D. Making large control inputs

26. The somatogravic illusion during rapid acceleration creates a false sensation of:

A. A turn

B. A descent

C. A roll

D. A pitch-up (climb)

27. Hypoxia's particularly dangerous feature is:

A. A false sense of well-being masking the impairment

B. Immediate severe pain

C. Loud ringing

D. Sharp thinking

28. Aeronautical decision-making (ADM) is the:

A. Process to maximize speed

B. Method to reduce fuel

C. Systematic process to determine the best course of action

D. Way to file a flight plan

29. The hazardous attitude expressed as "it won't happen to me" is:

A. Anti-authority

B. Macho

C. Resignation

D. Invulnerability

30. The IFR fuel rule (with an alternate) requires fuel to the destination, the alternate, and then:

A. 30 minutes

B. 15 minutes

C. 1 hour

D. 45 minutes at normal cruise

31. The 1-2-3 rule requires an alternate unless the forecast ceiling is at least 2,000 feet and visibility at least:

A. 1 mile

B. 3 statute miles

C. 2 miles

D. 5 miles

32. The transponder code for lost communications is:

A. 7700

B. 7600

C. 7500

D. 1200

33. Under 91.185, the route after lost communications follows the priority:

A. Filed, expected, vectored, assigned

B. Direct, filed, vectored, assigned

C. Assigned, vectored, expected, filed

D. Vectored, filed, assigned, expected

34. The IFR altitude rule after a two-way radio communication failure (91.185) requires the pilot to fly the:

A. Lowest of the assigned, minimum IFR, and expected altitudes

B. Filed cruise altitude for the entire route

C. Highest of the assigned, minimum IFR, and expected altitudes

D. Pattern altitude until reaching the destination

35. A glass-cockpit AHRS failure removes:

A. Airspeed and altitude

B. Attitude and heading

C. Engine data

D. Fuel quantity

36. A vacuum-driven attitude indicator that fails slowly may:

A. Drop to zero instantly

B. Reverse-sense

C. Lock obviously

D. Sag or roll off, presenting a wrong attitude

37. The glide slope is intercepted from below at the published altitude to avoid:

A. A false glide slope

B. Reverse sensing

C. Loss of DME

D. Excessive sensitivity

38. A WAAS receiver generally does not require a separate RAIM prediction because it:

A. Continuously monitors integrity through the augmentation system

B. Uses fewer satellites

C. Cannot fly approaches

D. Relies on ground NAVAIDs

39. Class A airspace extends from 18,000 feet MSL up to and including:

A. FL450

B. FL600

C. FL350

D. 60,000 feet AGL

40. Most IFR enroute and approach operations occur in which airspace?

A. Class A

B. Class B

C. Class E

D. Class G

41. Structural icing requires visible moisture and a temperature:

A. Above freezing

B. At or below freezing where the moisture strikes the aircraft

C. Above 10 degrees Celsius

D. Below minus 40 only

42. A microburst on approach is dangerous because it causes:

A. A rapid loss of airspeed and altitude through the shear

B. Reduced visibility only

C. Hail only

D. Lightning only

43. A METAR sky condition "OVC008" means:

A. Scattered at 8,000 feet

B. Few at 800 feet

C. Broken at 8,000 feet

D. Overcast at 800 feet

44. A pilot intercepting a VOR course with the CDI deflected left (normal sensing) should:

A. Turn right

B. Turn left toward the needle

C. Reverse the OBS

D. Climb

45. Maneuvering speed (V_A) is the maximum speed at which:

A. Flaps may be extended

B. The gear may be lowered

C. The aircraft can fly level

D. Full control deflection will not overstress the airframe

46. A standard-rate turn completes a 360-degree turn in:

A. Two minutes

B. One minute

C. Four minutes

D. Thirty seconds

47. A clearance to "maintain 5,000" requires the pilot to:

A. Climb above 5,000

B. Maintain 5,000 until otherwise cleared

C. Descend below 5,000

D. Choose any altitude

48. The clearance limit is the:

A. Point to which the aircraft is cleared

B. Lowest usable altitude

C. Cruise speed

D. Transponder code

49. A pilot who cannot comply with a clearance should:

A. Advise ATC and state "unable"

B. Comply anyway

C. Ignore it

D. Squawk 7700

50. A pilot flying partial panel after a vacuum failure controls pitch using the:

A. Attitude indicator

B. Magnetic compass

C. Altimeter and VSI

D. Heading indicator

51. The most reliable orientation cue in instrument conditions is the:

A. Vestibular system

B. Postural sense

C. Flight instruments

D. Auditory sense

52. A non-precision approach lacks which feature compared with a precision approach?

A. A glidepath meeting precision/APV standards

B. A final approach course

C. A missed approach point

D. An initial approach fix

53. A standard alternate minimum for an airport with a precision approach is a ceiling of:

A. 800 feet and 2 miles

B. 400 feet and 1 mile

C. 1,000 feet and 3 miles

D. 600 feet and 2 miles

54. A pilot reaching the DA on a precision approach without the runway in sight must:

A. Level off and continue

B. Execute the missed approach

C. Descend 100 more feet

D. Circle

55. A pilot must identify a VOR before use by its:

A. CDI deflection

B. TO/FROM flag

C. Morse code identifier

D. DME readout

56. The priority of actions in any in-flight emergency is:

A. Aviate, navigate, communicate

B. Communicate, navigate, aviate

C. Navigate, aviate, communicate

D. Communicate, aviate, navigate

57. A GPS receiver needs at least how many satellites for a 3D position and time?

A. Two

B. Three

C. Five

D. Four

58. A pilot must brief the missed approach before the approach so it can be:

A. Filed with ATC

B. Disregarded on glidepath

C. Replaced with a circle

D. Executed immediately if needed

59. A pilot operating IFR in controlled airspace must have:

A. A clearance and a filed flight plan

B. A second pilot

C. An autopilot

D. A parachute

60. The fundamental defense against spatial disorientation in IMC is to:

A. Rely on the vestibular system

B. Use the postural sense

C. Maintain a disciplined instrument cross-check, trusting the instruments

D. Make large control inputs

Answer Key

1. B — Acting as PIC under IFR requires an instrument rating and the recency requirements of 61.57. That regulation governs instrument currency.

2. A — The required IFR instruments and equipment are listed in 91.205. It specifies what must be installed and operational.

3. D — A blocked static port freezes the altimeter at the altitude of the blockage. It can no longer sense pressure change.

4. D — After a vacuum failure, the pilot controls bank using the electrically driven turn coordinator. The vacuum gyros are unreliable.

5. C — A wing always stalls when it exceeds its critical angle of attack. This is true regardless of airspeed or attitude.

6. A — A standard-rate turn produces a heading change of 3 degrees per second. This completes a 360-degree turn in two minutes.

7. A — The primary instrument for pitch in level flight at a constant altitude is the attitude indicator. It directly displays pitch attitude.

8. A — A small temperature-dew point spread indicates possible fog or low cloud formation. The air is near saturation.

9. D — A METAR reports observed surface weather. It reflects actual conditions, not a forecast.

10. B — AIRMET Zulu concerns icing and freezing levels. It addresses moderate icing and the freezing level.

11. A — A VOR radial is a magnetic course measured from the station. Radials radiate outward from the VOR.

12. C — DME measures slant-range distance, the direct line from aircraft to station. It exceeds the ground distance, most noticeably when close and high.

13. B — An LPV approach provides lateral and vertical guidance to a decision altitude. It is flown like a precision approach.

14. D — The localizer course is about four times more sensitive than a VOR. The narrower course demands smoother corrections.

15. C — A standard holding pattern uses right turns. Left turns are nonstandard and must be specified.

16. B — At or below 14,000 feet MSL, the inbound leg of a standard hold is timed for 1 minute. Above that altitude it is 1.5 minutes.

17. B — An ODP primarily provides obstacle clearance on departure. It ensures terrain and obstacle separation.

18. C — The standard climb gradient assumed by an ODP, unless higher is published, is 200 ft/NM. A steeper gradient is charted when required.

19. C — The MEA guarantees both obstacle clearance and navigation signal for the segment. It is the minimum enroute altitude meeting both.

20. B — On a magnetic course of 090 below 18,000 feet, the IFR cruising altitude is odd thousands. Eastbound courses (0–179) use odd thousands.

21. D — The Final Approach Fix on a non-precision approach profile is depicted by a Maltese cross. The lightning bolt marks the missed approach.

22. C — On a non-precision approach, the pilot descends to but never below the Minimum Descent Altitude. The MDA is a hard floor.

23. A — Under 91.175, three conditions must all be met to descend below DA/MDA: flight visibility, position for a normal landing, and required visual references. All three apply.

24. D — A circling MDA is higher because the maneuver requires low-altitude maneuvering with greater obstacle protection. The larger protected area needs more clearance.

25. C — Spatial disorientation is overcome by trusting the flight instruments. Bodily sensations are unreliable in IMC.

26. D — The somatogravic illusion during rapid acceleration creates a false sensation of a pitch-up (climb). The pilot may push the nose down dangerously.

27. A — Hypoxia's dangerous feature is a false sense of well-being masking the impairment. The pilot may not recognize the degradation.

28. C — ADM is the systematic process to determine the best course of action. It structures sound decision-making.

29. D — "It won't happen to me" expresses invulnerability. The antidote is recognizing that it could happen to anyone.

30. D — The IFR fuel rule with an alternate requires fuel to the destination, the alternate, then 45 minutes at normal cruise. The 45-minute reserve is the standard.

31. B — The 1-2-3 rule requires an alternate unless the forecast ceiling is at least 2,000 feet and visibility at least 3 statute miles. Below either, an alternate is required.

32. B — The transponder code for lost communications is 7600. It alerts ATC to the radio failure.

33. C — Under 91.185, the route follows the priority assigned, vectored, expected, filed (AVEF). The first applicable route is flown.

34. C — Under 91.185, the altitude flown for each route segment is the highest of the assigned altitude, the minimum IFR altitude (MEA) for that segment, and the altitude ATC advised the pilot to expect. The highest applicable value governs, ensuring terrain and obstacle clearance.

35. B — A glass-cockpit AHRS failure removes attitude and heading. Airspeed and altitude, from the ADC, remain.

36. D — A slowly failing vacuum-driven attitude indicator may sag or roll off, presenting a wrong attitude. The gradual error can mislead the pilot.

37. A — The glide slope is intercepted from below at the published altitude to avoid a false glide slope. The false lobes lie above the true glidepath.

38. A — A WAAS receiver continuously monitors integrity through the augmentation system, so a separate RAIM prediction is generally not required. The augmentation provides the integrity assurance.

39. B — Class A airspace extends from 18,000 feet MSL up to and including FL600. It is all IFR airspace.

40. C — Most IFR enroute and approach operations occur in Class E airspace. It is the most common controlled airspace for these phases.

41. B — Structural icing requires visible moisture and a temperature at or below freezing where the moisture strikes the aircraft. Both conditions must be present.

42. A — A microburst on approach causes a rapid loss of airspeed and altitude through the shear. The shift from headwind to tailwind robs performance.

43. D — "OVC008" means overcast at 800 feet. The height is in hundreds of feet.

44. B — Intercepting a VOR course with the CDI deflected left (normal sensing), the pilot turns left toward the needle. The rule is to turn toward the needle.

45. D — Maneuvering speed (V_A) is the maximum speed at which full control deflection will not overstress the airframe. Above it, abrupt inputs risk structural damage.

46. A — A standard-rate turn completes a 360-degree turn in two minutes. At 3 degrees per second, 360 degrees takes 120 seconds.

47. B — "Maintain 5,000" requires the pilot to maintain 5,000 until otherwise cleared. The assigned altitude is held.

48. A — The clearance limit is the point to which the aircraft is cleared. It is usually the destination.

49. A — A pilot who cannot comply with a clearance should advise ATC and state "unable." This lets ATC issue an alternative.

50. C — Flying partial panel after a vacuum failure, the pilot controls pitch using the altimeter and VSI. These pitot-static instruments are unaffected.

51. C — The most reliable orientation cue in instrument conditions is the flight instruments. The vestibular and postural senses mislead in IMC.

52. A — A non-precision approach lacks a glidepath meeting precision/APV standards. It provides lateral guidance only.

53. D — A standard alternate minimum for a precision approach is a 600-foot ceiling and 2 miles. Non-precision uses 800-2.

54. B — Reaching the DA without the runway in sight, the pilot executes the missed approach. There is no level-off or further descent.

55. C — A VOR is identified before use by its Morse code identifier. Positive identification confirms the station.

56. A — The priority of actions in any in-flight emergency is aviate, navigate, communicate. Maintaining control comes first.

57. D — A GPS receiver needs at least four satellites for a 3D position and time. The fourth resolves the timing solution.

58. D — The missed approach is briefed before the approach so it can be executed immediately if needed. Pre-briefing ensures a prompt go-around.

59. A — A pilot operating IFR in controlled airspace must have a clearance and a filed flight plan. Both are required.

60. C — The fundamental defense against spatial disorientation in IMC is to maintain a disciplined instrument cross-check, trusting the instruments. The scan and instrument trust overcome the false sensations.