



Update to Instrument Rating Test

Instrument Rating Test Prep 2021

September 2021

ASA-TP-I-21

With the following changes, ASA's *Instrument Rating Test Prep 2021* provides complete preparation for the FAA Instrument Rating, Instrument Flight Instructor (CFII), and Instrument Ground Instructor (IGI) Knowledge Exams. This test continues to reference the *Airman Knowledge Testing Supplement for Instrument Rating (FAA-CT-8080-3F)*.

About the Test Changes

The FAA exams are “closed tests” which means the exact database of questions is not available to the public. However, each test cycle the FAA provides a [What's New](#) document, which identifies subjects that have been removed or added to a test. This document also includes pertinent information to ensure training and testing remains correlated, which in turn promotes a reliable certification system.

The question and answer choices in this book provide a comprehensive representation of FAA questions, derived from history and experience with the airman testing process. You might see similar although not exactly the same questions on your official FAA exam. Answer stems may be rearranged from the A, B, C order you see in this book. Therefore, be careful to fully understand the intent of each question and corresponding answer while studying, rather than memorize the A, B, C answer. You may be asked a question that has unfamiliar wording; studying and understanding the information in this book and the associated reference documents will give you the tools to answer all types of questions with confidence. We invite your feedback. After you take your official FAA exam, let us know how you did. Were you prepared? Did the ASA products meet your needs and exceed your expectations? We want to continue to improve these products to ensure applicants are prepared, and become safe pilots. Send feedback to: cfi@asa2fly.com

Page Number	Question Number	Correct Answer	Explanation
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vii **A new row is added to the table of tests and the note is updated to read:**

Test Code	Test Name	Test Prep Study	Number of Questions	Min. Age	Allotted Time (hrs)
IEP	Instrument Rating Airplane EU Part – FCL Conversion*	ALL, AIR	40	16	2.0

* This test focuses on U.S. regulations, airspace, ATC services and practices, communications, and emergency procedures.

1-19 4146-1 [A] **A new question is added to read:**

ALL
4146-1. When approaching a cumulonimbus cell that is on your route of flight, a pilot should
A—circumnavigate the cell by at least 20 NM.
B—descend to an altitude that will allow the aircraft to fly under the cell.
C—attempt to fly under the anvil, as this will protect the aircraft from the most violent parts of the cell.

A pilot should avoid by at least 20 miles any thunderstorm identified as severe or giving an intense radar echo. This is especially true under the anvil of a large cumulonimbus where hail can be discharged. (PLT495, IR.I.B.K3h) — AIM ¶7-1-27

1-26 4960-3 [B] **Answer stem B and the explanation are changed to read:**

B—periodically disengaging the autopilot and hand flying the aircraft.

If inflight icing is encountered, the pilot should disengage the autopilot and hand-fly the aircraft. Using the autopilot during icing conditions may mask important cues relating to control or systems.

Page Number	Question Number	Correct Answer	Explanation
1-26	4960-4	[A]	The ACS code is changed to read: <i>IR.I.B.K3i</i>
1-31	4917	[B]	The question, answer stems, and incorrect answer explanation for C are changed to read: 4917. When climbing or descending through a temperature inversion or an area of possible wind shear, the pilot should be aware of A—a fast rate of climb and a slow rate of descent. B—a rapid change of airspeed. C—airframe icing. <i>Answer (C) is incorrect because airframe icing does not vary with wind shear.</i>
2-10	4468-1	[B]	The ACS code is changed to read: <i>IR.I.B.K3i</i>
2-14	Chapter text		The first paragraph of the Inflight Weather Advisories chapter text is changed to read: Previously called Severe Weather Watch bulletins (WW), the National Weather Service releases the Aviation Notification Watch Message (SAW) as needed. The SAW provides an area threat alert for the aviation meteorology community to forecast organized severe thunderstorms that may produce tornadoes, large hail, and/or convective damaging winds.
2-14	4186	[C]	The question, answer stems, explanation, and ACS code are changed to read: ALL 4186. When does the National Weather Service release an Aviation Notification Watch Message (SAW)? A—At 0000 (UTC). B—At 0000 and 1200 (UTC). C—Unscheduled and issued as required. <i>A SAW provides threat alerts to forecast organized severe thunderstorms that may produce tornadoes, large hail, and/or convective damaging winds on an unscheduled and as-needed basis. (PLT316, IR.I.B.K1) — AC 00-45</i>
2-15	4980	[C]	The question is changed to read: 4980. Consider this AIRMET that includes your route of flight:
2-15	4990	[A]	A new question is added to read: ALL 4990. The use of airborne weather avoidance radar A—provides no assurance of avoiding instrument weather conditions. B—assures the avoidance of hail. C—allows you to fly safely between echoes. <i>The ability of airborne weather radar to detect weather phenomena is limited in both direction and range. Additionally, weather radar detects only precipitation drops; it does not detect turbulence. Therefore, the radar display provides no assurance of avoiding turbulence. The radar display also does not provide assurance of avoiding instrument weather conditions from clouds and fog. (PLT105, IR.I.B.K4) — AC 00-6</i>
2-15	4991	[C]	A new question is added to read: ALL 4991. When does the National Weather Service release an Aviation Notification Watch Message (SAW)? A—At 0000 (UTC). B—0000 and 1200 (UTC). C—Unscheduled and issued as required. <i>Watch Hazard Probabilities are non-scheduled, event driven products and can be issued at anytime to draw attention to a specific weather hazard. (PLT316, IR.I.B.K1) — AC 00-45</i>

Page Number	Question Number	Correct Answer	Explanation
2-19	4992	[A]	<p>A new question is added to read:</p> <p>ALL 4992. What is the time frame for the validity of Low-Level Significant Weather Prognostic Charts? A— 12 to 24 hours in the future. B— From 3 hours before to 3 hours after the time on the chart. C— Up to 48 hours in the future.</p> <p><i>Low-Level Significant Weather Charts are issued four times daily and are valid at fixed times: 0000, 0600, 1200, and 1800 UTC. Each chart is divided into 12 (left) and 24 hour (right) forecast intervals. (PLT068, IR.I.B.K2) — AC 00-45</i></p>
2-20	4222	[C]	<p>The correct answer is changed to C and the question and answer stems are changed to read:</p> <p>ALL 4222. (Refer to Figure 7.) What type of weather can be expected in the red scalloped area near area 9? A— 2/8 to 6/8 coverage, occasional embedded thunderstorms, tops at FL330. B— 1/8 to 4/8 coverage, occasional embedded thunderstorms, maximum tops at 51,000 feet MSL. C— Isolated embedded cumulonimbus with tops at FL330.</p>
3-3	4267	[B]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K3a</i></p>
3-3	4278	[B]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K3a</i></p>
3-4	4289	[A]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K3a</i></p>
3-4	4301	[A]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K3a</i></p>
3-4	4313	[B]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K3a</i></p>
3-4	4345	[A]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K3a</i></p>
3-5	4359	[B]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K3a</i></p>
3-8	4913	[C]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K3a</i></p>
3-22	4870-2	[C]	<p>The question is changed to read:</p> <p>4870-2. What force causes a helicopter to turn in cruise flight?</p>
3-30	4930	[A]	<p>The correct answer is changed to A and the question and answer stems are changed to read:</p> <p>4930. If you need to use an alternate static source during level flight, you can expect to see A—a higher indication on the altimeter. B—a momentary descent on the VSI. C—a lower indicated airspeed.</p>

Page Number	Question Number	Correct Answer	Explanation
3-34	4850-2		This question has been removed.
4-11	4549	[C]	<p>Answer stem A and explanation for incorrect answers are changed to read:</p> <p>A—The first movement of the CDI as the aircraft enters the zone of confusion.</p> <p><i>Answer (A) is incorrect because the first movements of the CDI as the aircraft enters the zone of confusion indicates the aircraft is approaching the station. Answer (B) is incorrect because the moment the TO/FROM indicator becomes blank indicates the aircraft is in the cone of confusion over the VOR.</i></p>
5-34	4993	[A]	<p>A new question is added to read:</p> <p>ALL</p> <p>4993. Having appropriate instrument lighting will</p> <p>A—enable better recognition of outside references. B—make a proper instrument scan difficult. C—result in unnecessary eye strain.</p> <p><i>Flight deck lighting should be kept as low as possible so that the light does not monopolize night vision. This includes readjustment of instrument lights and orientation to allow for better night adaptation to see outside references. (PLT333, IR.IV.A.R1) — FAA-H-8083-25</i></p>
6-15	4758-1	[A]	<p>A new question is added to read:</p> <p>ALL</p> <p>4758-1. You have been issued a clearance void time for an IFR departure at a non-towered airport but are not yet airborne within the prescribed time. You must notify ATC of your failure to depart</p> <p>A—as soon as possible. B—within 30 minutes. C—within 60 minutes.</p> <p><i>A pilot who does not depart prior to the clearance void time must advise ATC as soon as possible of their intentions. ATC will normally advise the pilot of the time allotted to contact ATC of a failure to depart and this time may not exceed 30 minutes. (PLT141, IR.III.A.K1) — AIM ¶5-2-7</i></p> <p><i>Answer choice (B) is incorrect, ATC may not issue a time exceeding 30 minutes, while the pilot must notify ATC as soon as possible. Answer choice (c) is incorrect, anything exceeding 30 minutes will result in the aircraft being overdue and a search and rescue mission initiated.</i></p>
6-30	4994	[C]	<p>A new question is added to read:</p> <p>ALL</p> <p>4994. (Refer to Figure 136.) As you emerge from the clouds during an instrument approach and make visual contact with the runway environment, you see PAPI lights corresponding to those depicted in illustration 12. You are</p> <p>A—on the glidepath. B—above the glidepath. C—below the glidepath.</p> <p><i>PAPI uses light units similar to the VASI, but are installed in a single row of either two- or four-light units. The low-glidepath indication will have all red lights, which is depicted in illustration 12. (PLT147, IR.VI.E.K2) — AIM ¶2-1-2</i></p>
7-5	4546	[B]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K1</i></p>
7-6	4365	[B]	<p>The ACS code is changed to read:</p> <p><i>IR.I.C.K1</i></p>

Page Number	Question Number	Correct Answer	Explanation
7-18	4675-1	[A]	<p>A new question is added to read:</p> <p>ALL</p> <p>4675-1. (Refer to Figure 245.) You are executing the missed approach at CQX from the RNAV (GPS)-B approach. How will you enter the holding pattern?</p> <p>A—Direct. B—Teardrop. C—Parallel.</p> <p><i>You'll use a direct entry into the holding pattern to comply with the missed approach notes, which state execute a climbing left turn to 3000 direct CEPUL and hold. (PLT083, IR.III.Bk1) — AIM ¶5-3-7</i></p>
7-20	4265-1	[A]	<p>A new question is added to read:</p> <p>ALL</p> <p>4265-1. (Refer to Figure 47.) Due to thunderstorms along your planned route, you decide to file Battle Ground (BTG) VORTAC, V520 to OGYAJ intersection, KCLICKITAT (LTJ) VORTAC, V25 to YAKIMA (YKM) VORTAC. Calculate the time and fuel burn for the route with the following conditions:</p> <p>TAS = 140 kts Reported winds = 270 at 30 kts Fuel burn rate = 17 GPH</p> <p>A—49 minutes, 13.7 gallons. B—53 minutes, 15.1 gallons. C—60 minutes, 17 gallons.</p> <p><i>Determine your magnetic heading and distance as published on the Low Altitude Chart segment. Then using a flight computer, determine ground speed, leg time, and fuel burn.</i></p> <p><i>Distance: 124 NM Time En Route: 0:48:36 Fuel Burn: 13.77 GPH</i></p> <p><i>(PLT012, IR.I.C.k3c) — FAA-H-8083-25, Low Altitude Enroute Chart</i></p>
8-14	4282	[C]	This question has been removed.
8-16	4995	[B]	<p>A new question is added to read:</p> <p>ALL</p> <p>4995. (Refer to Figure 235.) What is the LPV decision altitude for the LNK RNAV (GPS) RWY 32?</p> <p>A—1,563 feet MSL. B—1,429 feet MSL. C—1,760 feet MSL.</p> <p><i>Figure 235 shows an LPV DA of 1,429 feet MSL for Runway 32. (PLT083, IR.VI.B.K1) — Instrument Approach Procedures</i></p>
8-19	4649	[B]	<p>The question and answer stems are changed to read:</p> <p>4649. (Refer to Figure 227.) The ILS RWY 35R procedure at APA depicts a symbol on the plan view that represents a minimum safe altitude sector within 25 NM of</p> <p>A—the FIRPI intersection. B—CASSE NDB/LOM. C—the I-APA Localizer.</p>

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8-19	4996	[A]	<p>A new question is added to read:</p> <p>ALL</p> <p>4996. (Refer to Figure 243.) What is the minimum altitude to cross CLAMM intersection while conducting the RNAV (GPS) RWY 6 approach at ROA?</p> <p>A—4,300 MSL. B—5,200 MSL. C—2,700 MSL.</p> <p><i>CLAMM is the FAF and needs to be crossed at or above 4,300 feet MSL as shown on the profile view of the approach chart. (PLT083, IR.VI.A.K1) — U.S. Terminal Procedures</i></p>
8-23	4997	[C]	<p>A new question is added to read:</p> <p>ALL</p> <p>4997. (Refer to Figure 245.) While flying at an assigned altitude of 5,000 feet MSL, you are cleared to CEPUL for the RNAV (GPS)-B at CQX. At what point may you leave 5,000 feet MSL?</p> <p>A—Upon crossing UMANE inbound for the approach. B—Upon crossing UMANE for the procedure turn. C—Upon crossing CEPUL.</p> <p><i>Once you have crossed CEPUL and established the approach, you can begin a descent to 2,000 feet MSL. (PLT102, IR.V.B.K2) — AIM ¶5-4-9</i></p> <p><i>Answer (A) is incorrect because you can begin a descent to 2,000 feet MSL prior to reaching UMANE, but you may not descend below 2,000 feet MSL until reaching the FAF. Answer (B) is incorrect because the approach chart notes NoPT (no procedure turn) from the CEPUL.</i></p>
8-24	4717-1	[B]	<p>The question category, question, and ACS code are changed to read:</p> <p>ALL</p> <p>4717-1. The instrument approach criteria for a Category A aircraft is based on a maximum airspeed of IR.VI.A.K1</p>
8-32	4998	[A]	<p>A new question is added to read:</p> <p>ALL</p> <p>4998. (Refer to Figure 247 and Legend 27.) ATC assigns the RAL Runway 9 ILS. In the event that a missed approach is necessary, you determine you will climb with 120 knots groundspeed. What would the missed approach rate of climb be?</p> <p>A—540 feet per minute minimum. B—200 feet per nautical mile. C—540 feet per nautical mile.</p> <p><i>The notes box on Figure 247 states a minimum rate of climb of 270 feet per NM is required up to 2,500 feet MSL. Using Legend 27, determine the rate of climb to be 540 fpm based on a 270 feet per NM rate of climb and GS of 120 knots. (PLT083, IR.VI.C.K1) — U.S. Terminal Procedures</i></p>
8-32	4999	[A]	<p>A new question is added to read:</p> <p>ALL</p> <p>4999. (Refer to Figure 253.) While executing the RNAV (GPS) RWY 18 LNAV approach at OSH, how would the missed approach point be identified?</p> <p>A—RW18 waypoint. B—1.1 NM from RW18 waypoint. C—1,040 feet MSL indicated.</p> <p><i>On an LNAV, the missed approach point is the last waypoint depicted in the profile view (RW18). (PLT083, IR.VI.C.K1) — U.S. Terminal Procedures</i></p>

Page Number	Question Number	Correct Answer	Explanation
8-32	4282	[B]	<p>A new question is added to read:</p> <p>ALL</p> <p>4282. (Refer to Figure 171.) You are briefing the RNAV (GPS) RWY33 approach at ADS. Where would you plan to execute the missed approach?</p> <p>A—4.1 DME from PORTR. B—RW33 waypoint. C—1,240 feet indicated on altimeter.</p> <p><i>The missed approach point is identified by the RW33 waypoint as shown on the profile view followed by the dashed line and arrow. (PLT083, IR.V.B.K1) — U.S. Terminal Procedures</i></p>
8-33	4999-1	[A]	<p>A new question is added to read:</p> <p>ALL</p> <p>4999-1. (Refer to Figure 178 and Legend 21.) You have been cleared for the straight-in localizer approach for Runway 13L at DAL. Prior to reaching the final approach fix, ATC advises you the RVR is not available and that the visibility is 1/2 SM. You may</p> <p>A—convert the RVR to statute miles and continue the approach. B—convert the RVR to statute miles and use the next higher minimums. C—request the ILS approach and disregard the RVR value.</p> <p><i>If RVR minimums for takeoff or landing are prescribed in an instrument approach procedure but RVR is not reported for the runway of intended operation, the RVR minimum shall be converted to ground visibility and shall be the visibility minimum for takeoff or landing on that runway. (PLT382, IR.VI.E.K1) — 14 CFR §91.175</i></p>
8-36	4709-1	[B]	<p>The ACS code is changed to read:</p> <p>IR.IV.B.R1</p>