



TTCAA Advisory Circular

Subject: INSTRUMENT RATING KNOWLEDGE TESTS

TTCAA Advisory Circular TAC- PEL060

Date: 06/10/02

PURPOSE

1. (1) The purpose of this TTCAA Advisory Circular (TAC) is to provide guidance for applicants preparing to take Private Pilot Knowledge Tests. Appendices provide subject matter outline, reference material, and sample questions, with subject matter knowledge codes.

(2) The Trinidad and Tobago Civil Aviation Regulations (TTCARs) can be obtained from the Trinidad and Tobago Government printery, Victoria Avenue Port-Of-Spain Trinidad. TTCAR No. 1 covers the requirements for personnel licensing.

(3) This TAC can be purchased from the Tobago Civil Aviation Authority, P.O. Box 2163, National Mail Centre, Golden Grove Road, Piarco, Republic of Trinidad and Tobago or downloaded from the TTCAA website at <<http://www.caa.gov.tt>>.

(4) Comments and/or questions regarding this TAC should be sent to Trinidad and Tobago Civil Aviation Authority, P.O. Box 2163, National Mail Centre, Golden Grove Road, Piarco, Republic of Trinidad and Tobago.

INTRODUCTION

2. (1) What is required to become a skilled and effective instrument rated pilot? Although some individuals possess more knowledge and skills than others, no one is a natural-born instrument pilot. Competent instrument pilots become so through study, training, and experience.

(2) This knowledge test guide will answer most questions about taking the Instrument Rating knowledge test by covering the following areas: knowledge test eligibility requirements; knowledge areas on the tests; descriptions of the tests; process for taking a knowledge test; validity of Airman Test Reports; use of test aids and materials; cheating or other unauthorized conduct; retesting procedures; and obtaining training and testing publications and general information.

(3) This guide will help applicants in preparing to take one or all of the following tests:

- (a) Instrument Rating—Aeroplane;
- (b) Instrument Rating—Helicopter (in development);
- (c) Instrument Rating—Aeroplane Validation;
- (d) Instrument Rating—Aeroplane Conversion.

(4) This guide is not offered as an easy way to obtain the necessary information for passing the knowledge tests. Rather, the intent of this guide is to define and narrow the field of study to the required knowledge areas included in the tests.

(5) The Trinidad and Tobago Civil Aviation Authority (TTCAA) airman knowledge tests are a very effective instrument for aviation safety and regulatory compliance. However, these tests can only sample the vast amount of knowledge every instrument pilot needs to operate safely in an ever increasingly complex airspace system.

KNOWLEDGE TEST ELIGIBILITY REQUIREMENTS

3. Individuals pursuing an Instrument Rating should review: Trinidad and Tobago Civil Aviation Authority Regulations 2004, No. 1 Part II Regulation 60 – Instrument Rating Requirements and TTCAR No. 1 Part II Regulation 44 (6) and Regulation 54 (2) for conversion of foreign instrument rating and TTCAR No. 1 Regulation 70 for validation of foreign instrument rating. The applicant for an Instrument Rating must be at least 17 years old and have a TTCAA Class 1 or 2 medical certificate issued under TTCAA Part 2 appropriate to the level of licence held.

KNOWLEDGE AREAS ON THE TESTS

4. (1) Instrument Rating tests are comprehensive because they must test applicants' knowledge in many subject areas.

(2) Applicant's pursuing an Instrument Rating should review TTCAR No. 1 Part II Regulation 60 (iii) - Knowledge areas, for the knowledge areas on the tests.

DESCRIPTIONS OF THE TESTS

5. (1) All test questions are the objective, multiple-choice type. Each question can be correctly answered by the selection of a single response. Each test question is independent of other questions; therefore, a correct response to one does not depend upon, or influence, the correct response to another. **The minimum passing score is 75 percent.**

(2) The following tests each contain **60 questions**, and applicants are allowed a **maximum of 2.5 hours** to complete each test.

- (a) Instrument Rating—Aeroplane;
- (b) Instrument Rating—Helicopter (in development).

(3) The following tests each contain **50 questions**, and applicants are allowed a **maximum of 2.0 hours** to complete each test.

- (a) Instrument Rating—Aeroplane Validation;
- (b) Instrument Rating—Aeroplane Conversion.

(4) Communication between individuals through the use of words is a complicated process. In addition to being an exercise in the application and use of aeronautical knowledge, a knowledge test is also an exercise in communication since it involves the use of the written language. Since the tests involve written rather than spoken words, communication between the test writer and the person being tested may become a difficult matter if care is not exercised by both parties. Consequently, considerable effort is expended to write each question in a clear, precise manner. Test applicants should be sure to carefully read the instructions given with each test, as well as the statements in each test item.

- (5) When taking a test, keep the following points in mind:
- (a) Answer each question in accordance with the latest regulations and guidance publications;
 - (b) Read each question carefully before looking at the possible answers. Test applicants should clearly understand the problem before attempting to solve it;
 - (c) After formulating an answer, determine which choice corresponds with that answer. The answer chosen should completely resolve the problem;
 - (d) From the answers given, it may appear that there is more than one possible answer; however, there is only one answer that is correct and complete. The other answers are either incomplete, erroneous, or represent common misconceptions;
 - (e) If a certain question is difficult, it is best to mark it for review and proceed to the next question. After answering the less difficult questions, return to those marked for review and answer them. The review marking procedure will be explained to test applicants prior to starting the test. Although the computer should alert test applicants to unanswered questions, test applicants should make sure every question has an answer recorded. This procedure will enable test applicants to use the available time to maximum advantage;
 - (f) When solving a calculation problem, the answer closest to the applicant's solution should be selected. The problem has been checked with various types of calculators; therefore, if the problem has been solved correctly, the applicant's answer will be closer to the correct answer than any of the other choices.

PROCESS FOR TAKING A KNOWLEDGE TEST

6. (1) The first step in the process of taking a knowledge test is to contact the TTCAA office. They can provide applicants with information relating to knowledge test prerequisites, required authorizations and endorsements, and where applicants can appear to take computerized knowledge tests and the appropriate fees involved. In addition applicants might want to visit the TTCAA website at <http://www.caa.gov.tt>.

(2) The second step in the process of taking a knowledge test is for the applicant to receive an endorsement from an authorized instructor or Aviation Training Organization that the applicant has completed the required training and is ready to take the knowledge test.

(3) Acceptable forms of endorsement are:

- (a) A certificate of graduation or a statement of accomplishment certifying the satisfactory completion of the ground school portion of a course for the certificate or rating sought. The certificate or statement may be issued by an approved Aviation Training Organization;
- (b) A written statement or logbook endorsement from an authorized ground or flight instructor certifying that the applicant has completed an applicable ground training or home study course and is prepared to take the knowledge test;
- (c) A failed Airman Test Report, passing Airman Test Report, or expired Airman Test Report (pass or fail), provided that the airman still has the original Airman Test Report in his/her possession;
- (d) An "expired test/credit" letter issued by the TTCAA (in lieu of a duplicate Airman Knowledge Test Report).

(4) The third step in the process of taking a knowledge test is for the applicant to receive written authorization from TTCAA to take the knowledge test.

(5) The fourth step in taking a knowledge test is to proceed to the TTCAA computer knowledge test centre. An applicant for a knowledge test must provide proper identification. Testing centre personnel will not begin the test until the test applicant's identification is verified.

(6) Upon completion of the knowledge test, each applicant will receive their own Airman Test Report, showing their test score with an embossed seal to authenticate the validity of the document.

(7) The Airman Test Report lists the subject matter areas for questions answered incorrectly. The total number of subject matter knowledge areas shown on the Airman Test Report is not necessarily an indication of the total number of questions answered incorrectly.

(8) The Appendices of this Knowledge Test Guide contains a list of reference materials for applicants to study during their training for the Instrument Rating. The questions on the knowledge test will come from these reference materials. TTCAA Advisory Circular TAC – PEL050 Subject Matter Codes for Airman Knowledge Pilot Testing, contains codes for airman knowledge testing. Applicants should match the subject matter knowledge codes on their Airman Test Report to these codes to review their areas of deficiency.

(9) A list of reference materials has been prepared by TTCAA to establish specific references for all knowledge standards and is to be used when preparing for an airman knowledge test. The list of reference materials is contained in the Appendix to this Knowledge Test Guide.

(10) An applicant's instructor is required to provide instruction on each of the knowledge areas listed on the Airman Test Report and to complete an endorsement of this instruction. The Airman Test Report must be presented to the flight test examiner prior to taking the skill test. During the oral portion of the skill test, the examiner is required to evaluate the noted areas of deficiency.

(11) Applicants requiring a duplicate Airman Test Report due to loss or destruction of the original, should send a signed request to the Trinidad and Tobago Civil Aviation Authority, P.O. Box 2163, National Mail Centre, Golden Grove Road, Piarco, Republic of Trinidad and Tobago.

VALIDITY OF AIRMAN TEST REPORTS

7. Airman Test Reports for the Instrument Rating licence are valid for 24 calendar months. The applicant should plan to complete the skill test during the 24 calendar month validity period. If the Airman Test Report expires before completion of the skill test, the applicant must retake the knowledge test.

USE OF TEST AIDS AND MATERIALS

8. Knowledge test applicants may use aids, reference materials, and test materials within the guidelines listed below. All models of aviation-oriented calculators may be used, including small electronic calculators that perform only arithmetic functions (add, subtract, multiply, and divide). Simple programmable memories, which allow addition to, subtraction from, or retrieval of one number from the memory, are permissible. Also, simple functions, such as square root and percent keys are permissible. The following guidelines apply:

- (a) Applicants may use any reference materials provided with the test. In addition, applicants may use scales, straightedges, protractors, plotters, navigation computers, log sheets, holding pattern entry aids, and electronic or mechanical calculators that are directly related to the test;
- (b) Manufacturers permanently inscribed instructions on the front and back of such aids, e.g., formulas, conversions, regulations, signals, weather data, holding pattern diagrams, frequencies, weight and balance formulas, and air traffic control procedures are permissible;
- (c) TTCAA personnel may provide a calculator to applicants and/or deny use of the applicant's personal calculator based on the following limitations:

- (i) Prior to, and upon completion of the test, while in the presence of the proctor, applicants must actuate the ON/OFF switch and perform any other function that ensures erasure of any data stored in memory circuits, including removal of batteries;
 - (ii) The use of electronic calculators incorporating permanent or continuous type memory circuits without erasure capability is prohibited. The proctor may refuse the use of the applicant's calculator when unable to determine the calculator's erasure capability;
 - (iii) Printouts of data must be surrendered at the completion of the test if the calculator incorporates this design feature;
 - (iv) The use of magnetic cards, magnetic tapes, modules, computer chips, or any other device upon which pre-written programs or information related to the test can be stored and retrieved is prohibited;
 - (v) Applicants are not permitted to use any booklet or manual containing instructions related to use of test aids.
- (d) Dictionaries are not permitted in the testing area;
 - (e) The TTCAA test proctor makes the final determination relating to test materials and personal possessions applicants may take into the testing area.

CHEATING OR OTHER UNAUTHORIZED CONDUCT

9. Computerized knowledge testing must be carried out in accordance with the strictest security procedures to avoid test compromise. The TTCAA Test Proctor will terminate a test at any time that he/she suspects that a cheating incident has occurred. A TTCAA investigation will then be conducted. If the investigation determines that cheating or unauthorized conduct has occurred, then any airman licence, certificate, or rating that the applicant holds may be revoked, and the applicant will be prohibited for 1 year from applying for or taking any test for a licence, certificate or rating under TTCAR No 1 Regulation 13.

RETESTING PROCEDURES

10. (1) Applicants who receive a grade lower than 75 percent and who wish to retest must present the following to TTCAA testing centre personnel when appearing for the purpose of retesting:

- (a) A failed Airman Test Report;
- (b) A written endorsement from an authorized instructor certifying that additional instruction has been given, and the instructor finds the applicant competent to pass the test;
- (c) A written authorization from TTCAA to retake the test.

(2) Applicants possessing an Airman Test Report with a score of 75 percent or higher who decide to retake the test in anticipation of a better score, may retake the test after 30 days from the date their last test was taken. The TTCAA will not allow applicants to retake a passed test before the 30-day period has lapsed. Prior to retesting, applicants will be required to surrender their current Airman Test Report to the test proctor. The last test taken will reflect the official final score.

OBTAINING TRAINING AND TESTING PUBLICATIONS AND GENERAL INFORMATION

11. Most of the current TTCAA airman training and testing publications can be obtained in electronic format from TTCAA at the TTCAA website at <http://www.caa.gov.tt>.

AIRMAN KNOWLEDGE TEST ITEMS

12. Sample questions are contained in the appendix to this test guide and are representative of questions for airman knowledge tests and their corresponding subject matter knowledge codes. These will help airmen become familiar with similar questions on the airman knowledge tests. The knowledge test is not designed to intimidate any prospective airman; it is designed to measure the level of competency required to receive a TTCAA licence. The list of reference materials contained in the appendix to this test guide is provided to ensure that instructors and students are able to determine the importance of the subject matter to be taught and learned.

COMPUTER TESTING SUPPLEMENTS

13. The computer testing supplements contain the graphics, legends, and maps that are needed to successfully respond to certain knowledge test items. These supplements will be provided by TTCAA test centre personnel during the airman knowledge test.

KNOWLEDGE TEST GUIDES

14. The knowledge test guides describe the knowledge testing policy and procedures for each licence area.

OTHER COMPUTER TESTING INFORMATION

15. Other computer testing information provides specific test information, such as test name, test code (three-digit test identifiers), number of questions, and the time (hours) allotted for each knowledge test. The test identifiers will assist airmen in selecting the proper test for the licence/rating being sought.

SKILL TEST STANDARDS

16. The skill test standards outline the knowledge and skill requirements for each airman licence and rating. The references listed in each task of the skill test standards indicate the specific publications used to develop the skill standards. The ability to issue immediate changes prior to publishing revised printed copies ensures the skill test standards are always accurate and usable.

SUBJECT MATTER REFERENCE/KNOWLEDGE CODES

17. The appendices of this guide contain the listings of reference materials and sample test questions with related subject matter knowledge codes used for airman knowledge testing. The listings of reference materials and subject matter knowledge codes have been prepared by the Trinidad and Tobago Civil Aviation Authority (TTCAA) to establish specific references for all knowledge standards. The listings contain reference materials to be used when preparing for all airman knowledge tests. The subject matter knowledge codes contained in TTCAA Advisory Circular TAC – PEL050, should be referred to when reviewing areas of deficiency on airman knowledge test reports.

Ramesh Lutchmedial
Director General of Civil Aviation

APPENDIX A
INSTRUMENT RATING – AEROPLANE (IRA)
SUBJECT MATTER OUTLINE

The following outlines the major topics and underlying content areas on the Instrument Rating – Aeroplane knowledge test.

1. Air Law:
 - (a) Rules and regulations relevant to flight under IFR;
 - (b) Related air traffic services practices and procedures.

2. Aircraft General Knowledge (for the aircraft category being sought):
 - (a) use, limitation and serviceability of avionics, electronic devices and instruments necessary for the control and navigation of aeroplanes under IFR and in instrument meteorological conditions;
 - (b) use and limitations of autopilot;
 - (c) compasses, turning and acceleration errors;
 - (d) gyroscopic instruments, operational limits and precession effects;
 - (e) practices and procedures in the event of malfunctions of various flight instruments.

3. Flight performance and planning for the aircraft category being sought:
 - (a) pre-flight preparations and checks appropriate to flight under IFR;
 - (b) operational flight planning;
 - (c) preparation and filing of air traffic services flight plans under IFR;
 - (d) altimeter setting procedures.

4. Human performance for the aircraft category being sought:
 - (a) human performance relevant to instrument flight in aircraft;
 - (b) principles of threat and error management;

5. Meteorology for the aircraft category being sought:
 - (a) application of aeronautical meteorology;
 - (b) interpretation and use of reports, charts and forecasts;
 - (c) codes and abbreviations;
 - (d) use of, and procedures for obtaining, meteorological information;
 - (e) altimetry;
 - (f) causes, recognition and effects of icing;
 - (g) frontal zone penetration procedures;
 - (h) hazardous weather avoidance;
 - (i) in the case of helicopter and powered-lift, effects of rotor icing.

APPENDIX A

INSTRUMENT RATING – AEROPLANE (IRA)

SUBJECT MATTER OUTLINE (*cont'd*)

6. Navigation:
 - (a) practical air navigation using radio navigation aids;
 - (b) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight;
 - (c) identification of radio navigation aids.

7. Operation procedures for the aircraft category being sought:
 - (a) application of threat and error management to operational principles;
 - (b) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedure charts for departure, en-route, descent and approach;
 - (c) precautionary and emergency procedures;
 - (d) safety practices associated with flight under IFR;
 - (e) obstacle clearance criteria.

8. Radiotelephony:
 - (a) communication procedures and phraseology as applied to aircraft operations under IFR;
 - (b) action to be taken in case of communication failure.

.....

APPENDIX B

INSTRUMENT RATING – AEROPLANE (IRA)

SAMPLE TEST QUESTIONS AND ANSWERS

1. Which condition would cause the altimeter to indicate a lower altitude than actually flown (true altitude)?

- A—Air temperature lower than standard.
- B—Atmospheric pressure lower than standard.
- C—Air temperature warmer than standard.

Answer C—Subject Matter Knowledge Code: M116.

2. What does the Runway Visual Range (RVR) value, depicted on certain straight in IAP Charts, represent?

- A—The slant range distance the pilot can see down the runway while crossing the threshold on glide slope.
- B—The horizontal distance a pilot should see when looking down the runway from a moving aircraft.
- C—The slant visual range a pilot should see down the final approach and during landing.

Answer B—Subject Matter Knowledge Code: N94.

3. (*Refer to figure 73.) What is the touchdown zone elevation for RWY 6?

- A—174 feet MSL.
- B—200 feet AGL.
- C—270 feet MSL.

Answer A—Subject Matter Knowledge Code: N31.

4. (Refer to figure 101.) What is the magnetic bearing TO the station?

- A—060°.
- B—260°.
- C—270°.

Answer B—Subject Matter Knowledge Code: N23.

5. (*Refer to figure 65.) Which point would be the appropriate VOR COP on V552 from the LFT to the TBD VORTACs?

- A—CLYNT intersection.
- B—HATCH intersection.
- C—34 DME from the LFT VORTAC.

Answer C—Subject Matter Knowledge Code: N95.

APPENDIX B

INSTRUMENT RATING – AEROPLANE (IRA)

SAMPLE TEST QUESTIONS AND ANSWERS (*cont'd*)

6. (*Refer to figures 96 and 97.) To which aircraft position does HSI presentation ‘H’ correspond?

- A—8.
- B—1.
- C—2.

Answer B—Subject Matter Knowledge Code: N86.

7. (*Refer to figure 117.) You receive this ATC clearance: ‘...CLEARED TO THE XYZ NDB. HOLD NORTHEAST ON THE ZERO FOUR ZERO DEGREE BEARING FROM THE NDB. LEFT TURNS...’

At station passage you note the indications in figure 117. What is the recommended procedure to enter the holding pattern?

- A—Direct only.
- B—Teardrop only.
- C—Parallel only.

Answer B—Subject Matter Knowledge Code: L55.

8. (*Refer to figures 21 and 21A, 22 and 22A, 23, 24, 25, and 26.) After departing GJT and arriving at Durango CO, La Plata CO Airport, you are unable to land because of weather.

How long can you hold over DRO before departing for return flight to the alternate, Grand Junction CO, Walker Field Airport?

Total useable fuel on board, 68 gallons.

Wind and velocity at 16,000, 2308-16°.

Average fuel consumption 15 GPH.

- A—1 hour 33 minutes.
- B—1 hour 37 minutes.
- C—1 hour 42 minutes.

Answer A—Subject Matter Knowledge Code: L02.

9. Which instrument provides the most pertinent information (primary) for bank control in straight-and-level flight?

- A—Turn and slip indicator.
- B—Attitude indicator.
- C—Heading indicator.

Answer C—Subject Matter Knowledge Code: L37

APPENDIX B

INSTRUMENT RATING – AEROPLANE (IRA)

SAMPLE TEST QUESTIONS AND ANSWERS (*cont'd*)

10. Which flight time may be logged as instrument time when on an instrument flight plan?

- A—All of the time the aircraft was not controlled by ground references.
- B—Only the time you controlled the aircraft solely by reference to flight instruments.
- C—Only the time you were flying in IFR weather conditions.

Answer B—Subject Matter Knowledge Code: B119.

11. In addition to a VOR receiver and two-way communications capability, which additional equipment is required for IFR operation in Class B airspace?

- A—DME and an operable coded transponder having Mode C capability.
- B—Standby communications receiver, DME, and coded transponder.
- C—An operable coded transponder having Mode C capability.

Answer C—Subject Matter Knowledge Code: F12.

12. (¹Refer to figure 85.) What procedure should be followed if communications are lost before reaching 9,000 feet?

- A—At 9,000, turn left direct to FMG VORTAC, then via assigned route if at proper altitude; if not, climb in holding pattern until reaching the proper altitude..
- B—Continue climb to WAGGE INT, turn left direct to FMG VORTAC, then if at or above MCA, proceed on assigned route; if not, continue climb in holding pattern until at the proper altitude.
- C—Continue climb on LOC course to cross WAGGE INT at or above 9,000, turn left direct to FMG VORTAC to cross at 10,000 or above, and continue on assigned course.

Answer B—Subject Matter Knowledge Code: G37.

.....

¹ See Appendix 4 for figures.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C

INSTRUMENT RATING – AEROPLANE (IRA) INSTRUMENT RATING – AEROPLANE VALIDATION (IVL) INSTRUMENT RATING – AEROPLANE CONVERSION (ICL)

LIST OF REFERENCE MATERIALS

The publications listed below contain study material for training for the Instrument Rating. The questions on the knowledge test will come from these reference materials. Most of these publications can be purchased from Trinidad and Tobago Civil Aviation Authority, P.O. Box 2163, National Mail Centre, Golden Grove Road, Piarcro, Republic of Trinidad and Tobago or be downloaded from the TTCAA web site at <http://www.caa.gov.tt>. ICAO publications can be purchased from ICAO at: <http://www.icao.int>. The latest revision of the listed references should be requested.

1. Trinidad and Tobago Civil Aviation Regulations (TTCAR), in particular:
 - (a) TTCAR No. 1 – General Applications and Personnel Licensing Regulations
 - (b) TTCAR No. 2 – Operations Regulations
 - (c) TTCAR No. 5 – Airworthiness Regulations
 - (d) TTCAR No. 7 – Instrument and Equipment Regulations
2. ICAO Annexes: 3, 10 Volume II, 11 and 14 (pertinent parts)
3. ICAO Document 4444: General provisions, Aero Control service, Approach control service, Aerodrome control service, and Flight information and alerting service.
4. Aeronautical Information Publication (AIP) Eastern Caribbean
5. Sectional Aeronautical Chart
6. Airport/Facility Directory
7. FAA-H-15-8083-15—Instrument Flying Handbook (adopted in cooperation with FAA)
8. FAA-H-8083-25—Pilot’s Handbook of Aeronautical Knowledge (adopted in cooperation with FAA)
9. FAA-H-8083-3—Airplane Flying Handbook (adopted in cooperation with FAA)
10. FAA-H-8083-1—Aircraft Weight and Balance (adopted in cooperation with FAA)
11. FAA- H-8083-23 —Seaplane (adopted in cooperation with FA

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX D

**INSTRUMENT RATING – AEROPLANE VALIDATION (IVL)
INSTRUMENT RATING – AEROPLANE CONVERSION (ICL)**

SUBJECT MATTER OUTLINE

The following outlines the major topics and underlying content areas on the Instrument Rating – Aeroplane Validation and Conversion knowledge tests.

1. Air Law:
 - (a) Rules and regulations relevant to flight under IFR;
 - (b) Related air traffic services practices and procedures.

2. Meteorology for the aircraft category being sought:
 - (a) application of aeronautical meteorology;
 - (b) interpretation and use of reports, charts and forecasts;
 - (c) codes and abbreviations;
 - (d) use of, and procedures for obtaining, meteorological information;
 - (e) altimetry;
 - (f) causes, recognition and effects of icing;
 - (g) frontal zone penetration procedures;
 - (h) hazardous weather avoidance;
 - (i) in the case of helicopter and powered-lift, effects of rotor icing.

3. Operation procedures for the aircraft category being sought:
 - (a) application of threat and error management to operational principles;
 - (b) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedure charts for departure, en-route, descent and approach;
 - (c) precautionary and emergency procedures;
 - (d) safety practices associated with flight under IFR;
 - (e) obstacle clearance criteria.

4. Radiotelephony:
 - (a) communication procedures and phraseology as applied to aircraft operations under IFR;
 - (b) action to be taken in case of communication failure.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX E

**INSTRUMENT RATING – AEROPLANE VALIDATION (IVL)
INSTRUMENT RATING – AEROPLANE CONVERSION (ICL)**

SAMPLE TEST QUESTIONS AND ANSWERS

1. Which flight time may be logged as instrument time when on an instrument flight plan?

- A—All of the time the aircraft was not controlled by ground references.
- B—Only the time you controlled the aircraft solely by reference to flight instruments.
- C—Only the time you were flying in IFR weather conditions.

Answer B—Subject Matter Knowledge Code: B119.

2. Which condition would cause the altimeter to indicate a lower altitude than actually flown (true altitude)?

- A—Air temperature lower than standard.
- B—Atmospheric pressure lower than standard.
- C—Air temperature warmer than standard.

Answer C—Subject Matter Knowledge Code: M116.

3. When filing a composite flight plan where the first portion of the flight is IFR, which fix(es) should be indicated on the flight plan form?

- A—All points of transition from one airway to another, fixes defining direct route segments, and the clearance limit fix.
- B—Only the fix where you plan to terminate the IFR portion of the flight.
- C—Only those compulsory reporting points on the IFR route segment.

Answer A—Subject Matter Knowledge Code: L52.

4. When a distress or urgency condition is encountered, the pilot of an aircraft with a transponder, who desires to alert a ground radar facility, should squawk code

- A—7700.
- B—7600.
- C—7500.

Answer A—Subject Matter Knowledge Code: T01.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX F
INSTRUMENT RATING – HELICOPTER (IRH)
(BEING DEVELOPED)

.....