



Effectivity Date: 10/05/2021

1 PURPOSE

This Technical Circular is issued to provide guidance to The Aviation Maintenance Technical (AMT) License and Ratings applicants and all aviation industry, preparing to take the knowledge test as part of their AMT licensing requirements, as per MOZCAR/CATS 66.

2 APPLICABILITY

This Technical Circular is applicable Aviation Maintenance Technical (AMT) License and Ratings applicants;

3. REFERENCES

MOZCAR Part 66 specify requirements for issuance of aircraft maintenance technician engineer license;

MOZCAR part 141 generally applicants requiring an approved training organization to obtain approval for a training program for licenses or for license applicants who are subject to the MOZCARS requirements;

4 KNOWLEDGE TESTS

4.1 KNOWLEDGE TEST DESCRIPTIONS

- 4.1.1 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.
- 4.1.2 The tests contain 100 questions each, and applicants are allowed a maximum of 3.0 hours to complete each test.
- 4.1.3 taking a test, the following points shall be considered

- 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.
- d) The answer chosen should completely resolve the problem.
- e) From the answers given, it may appear 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.
- f) If a certain question is difficult, it is best to mark it for review and proceed to the next question.
- g) 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. Following these procedures will enable test applicants to use the available time to maximum advantage.
- h) 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.

4.1.4 This guide will help applicants prepare for the following test:

- Aircraft Maintenance Technician—General subjects
- Aircraft Maintenance Technician—Airframe Rating
- Aircraft Maintenance Technician—Powerplant Rating
- Aircraft Maintenance Technician—Avionics Rating

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

4.1.6 Civil Aviation Authority 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 AMT must possess to operate safely in an increasingly complex aviation system.

4.2 EXAMINATION SEASONS AND BOOKING

- 4.2.1 IACM establishes a number of examination season (set of days in the year on which the examinations can be taken) in a year, and a number of examining calendar (a group of examination types or subjects set for a portion of days within working days) in the online framework examination system (Civil Aviation Software for regulators-CASR), or in paper.
- 4.2.2 In a calendar, one examination week will be selected for conducting of all booked exams.
- 4.2.3 A candidate shall submit his application not less than, 15 days before the examination date.
 - 4.2.3.1 Five days before the examination start a communication of examination date and time will be sent to accepted applicant or Training organization applying; And within 15 days an inspection report will be sent for non-admitted candidates;
 - 4.2.3.2 An examination AIC will be posted in that authority website , specifying the examination dates of all the seasons and any other information deemed necessary;
 - 4.2.3.3 All computer examinations (conducted in CASRS system), will be conducted each day, provided the applicant has been accepted and communicated as specified in points 4.2.3, of this document;
- 4.2.4 Application packages shall be sent to IACM in the current approved ways of applications; any application submitted in a not approved procedure, will not be considered for evaluation

5.2 KNOWLEDGE TEST SUBJECTS AND PASSING GRADES

5.2.1 General written knowledge Test for all License;

In order to qualify for aviation maintenance technician/engineer/mechanic license, all candidates must obtain not less than 75% pass marks for each of the prescribed subject below:

1) Air law and airworthiness Requirements:

Rules and regulations relevant to an aircraft maintenance license holder including applicable airworthiness requirements governing certification and continuing airworthiness of aircraft and approved aircraft maintenance organization and procedures;

2) Natural Science and Aircraft General knowledge:

- a) Basic mathematics;
- b) Units of measurement;
- c) Fundamental principles and theory of physics and ;
- d) Chemistry applicable to aircraft maintenance.

3) Aircraft Engineering;

- a) Characteristics and applications of the materials of aircraft construction
- b) including principles of construction and functioning of aircraft structures;
- c) Fastening techniques;
- d) engines and their associated systems;
- e) mechanical,
- f) fluid,
- g) electrical and electronic power sources;
- h) aircraft instrument and display systems;
- i) aircraft control systems;
- j) Airborne navigation and communication systems

4) Aircraft maintenance:

- a) Tasks required to ensure the continuing airworthiness of an aircraft including methods and procedures for the overhaul (maintenance practice);
- b) Repair, inspection, replacement, modification or defect rectification of aircraft structures, components and systems in accordance with the methods prescribed in the relevant Maintenance Manuals and the applicable Standards of airworthiness;

5 Human performance;

Human performance, including principles of TEM, relevant to aircraft maintenance.

5.3 Written knowledge Test all for Ratings

In order to qualify for a specific rating, an applicant shall pass with not less than 75% a knowledge test covering at least the following areas:

1) For Airframe Rating :

- (a) Wood structures.
- (b) Aircraft covering.
- (c) Aircraft finishes.
- (d) Sheet metal and non-metallic structures.
- (e) Welding.
- (f) Assembly and rigging.
- (g) Airframe inspection.
- (8) Fuel systems.
- (h) Aircraft landing gear systems.
- (i) Hydraulic and pneumatic power systems.
- (j) Cabin atmosphere control systems.
- (k) Aircraft instrument systems.
- (l) Communication and navigation systems.
- (m) Aircraft fuel systems.
- (n) Aircraft electrical systems.
- (o) Position and warning systems.
- (p) Ice and rain control systems.
- (q) Fire protection systems.

2) For Power Plant Rating:

- (a) Reciprocating systems.
- (b) Turbine engines.
- (c) Engine inspection
- (d) Engine instrument systems.
- (e) Engine fire protection systems.
- (f) Engine electrical systems.
- (g) Lubrication systems.
- (h) Ignition and starting systems.
- (i) Fuel metering.
- (j) Engine fuel systems.

- (k) Induction and engine airflow systems.
- (l) Engine cooling systems.
- (m) Engine exhaust and reverser systems.
- (n) Propellers.
- (o) Auxiliary power units.

3) For Avionics Rating:

- (a) Aircraft electrical systems;
- (b) Aircraft instrument systems;
- (c) Automatic flight control systems;
- (d) Aircraft radio and radio navigation systems,
- (e) Aircraft navigation systems; and
- (f) Aircraft systems/components – avionics.

5.4 Acceptable forms of endorsement to Aircraft Maintenance Technician (AMT) licence examinations:

- (a) The candidate must present proofs of have completed a training within an Aviation Training Organization (ATO), or obtained experience in an Approved Maintenance Organization Approved by the Mozambique Civil Aviation Authority for the purpose of AMT training and or experience acquisition, or in a Defense force for Military personnel;
- (b) For the AMO, the accountable manager or delegated person must certify the candidate's readiness for the examination.
- (c) Presentation of Logbook containing at least half of experience required for the issuance of the licenses as applicable in part 66, properly certified and recognized by a responsible personnel.

6 EXAMINATION PROCESS

6.1 Entry to License or Rating theoretical knowledge Examinations

- a)** For License applicants or rating endorsement application package must contain:
 - i)** Examination entry form properly filled;
 - ii)** Copy of License held (for rating endorsement applicant);
 - iii)** Completion certificate or recommendation letter or declaration confirming the experience acquisition or training conclusion, passed by appropriate and accepted organization for the purpose;

- iv) logbook with not less than half of experience required for the license or rating issuance properly certified and recognized by a responsible personnel, as per MOZCAR/CATS 66 as applicable;
- V) proof of payment for each subject.

b) For License Validation or conversion applicants, the application package must contain:

- i) Examination entry form properly filled;
- ii) Copy of a foreign valid License held;
- iii) On going and accepted Validation or conversion process at the Authority.
- c) Only application packages submitted in the IACM reception and or according to therequired process, will be reviewed;
- d) Application with discrepancies will be handed according to IACM documentation process, and a inspection report will be sent within 15 days, detailing the finding;
- e) Proof of payment for each subject.

6.2 EXAMINATION SITTING:

- a) A email or letter will be sent to the accepted candidate, or applicants, in not less than 5 working days before the examination starting date, with examination detail, containing time, and date for the examination ;
- b) Approved candidates shall report at IACM, with personnel identification document, 30 minutes before the examination start time, to get the access codes,
- c) Any issue with system, IACM personnel or others from the authority part, during or before the examination sitting, that implicates on the cancelation of exam or postponing, will deem on to a rebooking of examination, and communicated to the candidate within 24 hours the new examination date, from the date of the issue.
- d) Issues referred on c above, doesn't include cheating, miss conduct, delays or other issues coming from the candidate.
- e) Any issue coming from the candidate as referred in b above and others, will deem on to a full restart of all examination process for readmission as applicable.

6.3 ATTENDANCE AT THE EXAMINATION

- a) Candidates should be present at the examination center with proof of identity.

- b) Candidates may enter the examination room fifteen (15) minutes preceding the start of the examination to prepare examination material. Candidates must not remain in the room after they finish the examination period unless they are taking an examination in the next period.
- c) Bags, briefcases, cellular phones, programmable calculators, beepers etc are **not allowed** in the examination room, such personal belongings may be placed at the rear of the examination room, under the direction of the invigilating desk.
- e) Upon completion of the knowledge test, each applicant will receive the Knowledge Test Report showing the test score. The Airman Knowledge Test Report is certified with an embossed seal to authenticate the validity of the document with the authority signature;
- d) Upon all subjects conclusion, the candidate shall request at the CAA a Declaration confirming the examination conclusions, to be presented on the License issuance or for the practical examination, as a proof of passing all knowledge examination as required by MOZCAR;

6.4 Materials for the Examination

- a) When necessary the following reference books and or tables will be supplied to each candidate but they must not be marked in any way or removed from the examination room.
- b) The Authority's Navigation Log and Flight Planning forms will be provided and no any other may be used. Flight Planning Data sheets and radio navigation charts will be provided when necessary;
- c) Candidates are NOT permitted to bring their own tables, reference books or papers, including instruction books for calculators and computers into the examination room.
- d) For Performance Examination candidates will be provided with appropriate aircraft performance (Charts) and a copy of the applicable Regulations.
- e) Candidates are required to provide themselves with all the necessary drawings and calculating instruments, e.g. Dividers, compasses, protractors, parallel rules, slide rules, and navigational computers.
- f) No pencil boxes, containers or instrument cases are permitted on the tables. The use of slide rules or instruments containing printed information on critical

points, point of no return, distance to the horizon, convergence angle, conversion factors, etc. is not permitted.

- g)** Candidates will NOT be permitted to use calculators which are programmable; those having a navigation function; those having a hard copy printout; or devices having an alpha-numeric data bank. However they may use simple wrist or hand held electronic calculators in the examinations.
- h)** Calculators must not be used in such a manner, or be of such a type, as to cause distraction to other candidates.
- i)** A candidate must accept the risk that the misuse or malfunctioning of a calculator may lead to an incorrect answer. No allowance for such an occurrence can be made by the Authority in marking t.
- j)** All relevant data must be entered in appropriate forms when so directed. Power supplies for operating or recharging electronic calculators may not be available in the examination room.
- k)** All used or unused writing paper and other materials supplied to the candidate must be returned to the invigilator at the end of the examination.

6.5 RULES TO BE APPLIED FOR CONDUCT OF EXAMINATION

- a)** All work must be shown in the preform, or navigation log forms or on foolscap when so directed; candidates are not allowed to use any loose paper other than that provided at the examination. All papers are to be returned with the answer sheet to the invigilator on completion.
- b)** For examinations conducted in computer, the candidate must select the answer by clicking on the desired option;
- c)** After the examination time ends, the examination will automatically be terminated, and all non-marked question will be Assumed as wrong question;
- d)** If the candidate presumes that a question is not clear or have any issue, on spelling, answer etc. a mark for review may be clicked in the system , to enable the question revision by the Authority;
- e)** Answer sheets are to be completed using pen for paper examination. Candidates may use other writing implements for navigation and flight planning at the discretion of the invigilator.
- f)** For computer examinations, the questions are answered by clicking on the correct answer;

- g) Silence is to be observed in examination room at all times.
- h) If a candidate wishes to speak to the invigilating officer, he should remain seated and raise his hand. It should be noted that the invigilating officer will consider only those questions from candidates, which relate to the general conduct of the examinations and he will not enter into discussion on the interpretation of words or questions contained in the examination papers.
- i) A candidate may leave the room if he finishes before time, except during the last five (5) minutes before the end of the paper and subject always to the permission of the invigilating officer. Candidates are to stop work when so directed and must remain seated until all answer material has been collected.
- j) Any candidate who attempts to remove unauthorized examination materials from the room, talks to any other person rather than the invigilators, or contravening any rule established will be liable to disqualification from those examinations, which have been taken.

6. KNOWLEDGE TESTS CREDITS

- a) A candidate for any Aircraft Maintenance technician examination must enter for at least 1 subject for the first examination sitting entered, and specify the preferred date, by filling the examination form;
- b) A candidate will retain credits for all subjects passed;
- c) Having attained credits, a candidate is required to pass the remaining subjects for the examination within 6 months from the date at which credits are attained.
- d) A candidate may be allowed a 30 days extension if he has only one subject left to pass. His request will be considered only if the time to attain his subjects has not expired at the time of the request.

7. RETESTING PROCEDURES

- 7.1 Applicants who receive a grade lower than 75 percent and who wish to retest must present the following to CAA testing center personnel when appearing for the purpose of retesting, shall submit.
 - a) Examination entry form.
 - b) Copy of failed knowledge test report.

c) Proff of payment .

7.2 Applicants possessing an Airman Knowledge 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. IACM 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 Knowledge Test Report to the test examiner. The last test taken will reflect the official final score.

8. CHEATING OR OTHER UNAUTHORISED CONDUCT

Computer knowledge testing must be carried out in accordance with the strictest security procedures to avoid test compromise. The IACM test examiner will terminate a test at anytime that he/she suspects that a cheating incident has occurred.

A IACM investigation will then be conducted.

If the investigation determines that cheating or unauthorized conduct has occurred, then any applicant licence, certificate, or rating 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 MOZCARS .

9. Affectivity

This circular takes effect, immediately from the date of approval, and revokes any other on regard to this topic.


Approved
CHAIRMEN OF THE BOARD
Capt. João Martins de Abreu