



**CIVIL AVIATION GUIDANCE MATERIAL – 1202**



# **ATC RATING EXAMINATION**

**CIVIL AVIATION AUTHORITY OF MALAYSIA**

**ISSUE 01**

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## Introduction

This Civil Aviation Guidance Material 1202 (CAGM – 1202) is issued by the Civil Aviation Authority of Malaysia (CAAM) to provide guidance for Air Traffic Services providers and personnel, pursuant to Civil Aviation Directive 1201 – ATC Licensing (CAD 1201 – ATC Licensing).

Organisations may use these guidelines to demonstrate compliance with the provisions of the relevant CAD's issued. Without prejudice to Regulation 152 of the Malaysian Civil Aviation Regulations 2016 (MCAIR 2016), when the CAGMs issued by the CAAM are used, the related requirements of the CAD's are considered as met, and further demonstration may not be required.



**(Datuk Captain Chester Voo Chee Soon)**  
Chief Executive Officer  
Civil Aviation Authority of Malaysia

## Civil Aviation Guidance Material Components and Editorial Practices

This Civil Aviation Guidance Material is made up of the following components and are defined as follows:

**Standards:** Usually preceded by words such as “*shall*” or “*must*”, are any specification for physical characteristics, configuration, performance, personnel or procedure, where uniform application is necessary for the safety or regularity of air navigation and to which Operators must conform. In the event of impossibility of compliance, notification to the CAAM is compulsory.

**Recommended Practices:** Usually preceded by the words such as “*should*” or “*may*”, are any specification for physical characteristics, configuration, performance, personnel or procedure, where the uniform application is desirable in the interest of safety, regularity or efficiency of air navigation, and to which Operators will endeavour to conform.

**Appendices:** Material grouped separately for convenience but forms part of the Standards and Recommended Practices stipulated by the CAAM.

**Definitions:** Terms used in the Standards and Recommended Practices which are not self-explanatory in that they do not have accepted dictionary meanings. A definition does not have an independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

**Tables and Figures:** These add to or illustrate a Standard or Recommended Practice and which are referred to therein, form part of the associated Standard or Recommended Practice and have the same status.

**Notes:** Included in the text, where appropriate, Notes give factual information or references bearing on the Standards or Recommended Practices in question but not constituting part of the Standards or Recommended Practices;

**Attachments:** Material supplementary to the Standards and Recommended Practices or included as a guide to their application.

It is to be noted that some Standards in this Civil Aviation Guidance Material incorporates, by reference, other specifications having the status of Recommended Practices. In such cases, the text of the Recommended Practice becomes part of the Standard.

The units of measurement used in this document are in accordance with the International System of Units (SI) as specified in CAD 5. Where CAD 5 permits the use of non-SI alternative units, these are shown in parentheses following the basic units. Where two sets of units are quoted it must not be assumed that the pairs of values are equal and interchangeable. It may, however, be inferred that an equivalent level of safety is achieved when either set of units is used exclusively.

Any reference to a portion of this document, which is identified by a number and/or title, includes all subdivisions of that portion.

Throughout this Civil Aviation Guidance Material, the use of the male gender should be understood to include male and female persons.



# Record of Revisions

Revisions to this CAGM shall be made by authorised personnel only. After inserting the revision, enter the required data in the revision sheet below. The '*Initials*' has to be signed off by the personnel responsible for the change.

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### Summary of Changes

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# 1 Competence Assessment of ATC Examination

## 1.1 Introduction

1.1.1 The competence or skill assessment of an ATC Examination system plays an important role in emphasising a safety culture in the ATS operational environment. It will boost standardisation in the application of Air Traffic Control (ATC) procedures throughout the ATS Unit and ensure collective approaches to solving operational problems through the establishment of “best practice” controlling techniques.

1.1.2 It is important that an ATC Examination procedure is viewed as a reliable process that positively contributes to safety. Competence assessment of controllers must be a genuine test of a controller’s operational skill and knowledge. Although failure during an ATC Examination for a practising air traffic controller (ATCO) is expected to be a rare occurrence, the actual assessment must be seen by ATCOs as one in which they will not automatically be assessed as competent in respect of their performance.

## 1.2 What Is Competency?

1.2.1 Competency is a consistent dimension of human performance that is used to reliably predict successful performance on the job. Competency is manifested and observed through behaviours that mobilise the relevant knowledge, skills and attitudes (SKAs) to carry out activities or tasks under specified conditions. A person successfully achieves a competency if its associated standard is met.

1.2.2 Competencies allow people to formulate solutions for complex and/or difficult situations, including situations that are being experienced for the first time. Air traffic controllers need to be able to deal with these situations effectively and at the same time ensure that they are done in a safe and secure manner.

1.2.3 Knowledge

1.2.3.1 Knowledge is specific information required to enable a learner to develop and apply the skills and attitudes to recall facts, identify concepts, apply rules or principles, solve problems, and think creatively in the context of work.

1.2.3.2 Knowledge is an outcome of the learning process. There are different types of knowledge:

- a) declarative (facts, raw data);
- b) procedural (categorised/contextualised, application of conditional if-then rules);
- c) strategic (synthesis, inference to guide resource allocation for decision-making, problem-solving, behavioural action); and

- d) adaptive (generalisation, innovation, invention).

#### 1.2.4 Skills

1.2.4.1 Skill is an ability to perform an activity or action. It is often divided into three types:

- a) motor skill;
- b) cognitive skill; and
- c) metacognitive skill

1.2.4.2 A motor skill is an intentional movement involving a motor or muscular component that must be learned and voluntarily produced to proficiently perform a goal-oriented task.

1.2.4.3 A cognitive skill is any mental skill that is used in the process of acquiring knowledge. These skills include reasoning, perception and intuition.

1.2.4.4 A metacognitive skill relates to the ability of learners to monitor and direct their own learning processes (sometimes described as “thinking about thinking”). For example, planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are metacognitive.

1.2.4.5 Skills are developed over time and with practice. Often complex tasks that are new to the ATCO are initially seen as cognitively demanding, however, as they become more practiced, some of these cognitive processes become automatised and so the skill requires less effort to perform. In terms of ATC, this automation gives the controller the capability and the capacity to find solutions to more difficult situations.

#### 1.2.5 Attitude

1.2.5.1 Attitude is a persisting internal mental state or disposition that can be learned and that influences an individual’s choice of personal action toward an object, person or event. Attitudes have affective components, cognitive aspects and behavioural consequences. To demonstrate the “right” attitude, a learner needs to know how to “be” in a given context.

1.2.5.2 For ATCOs, their attitudes towards issues such as safety, adherence to regulations, working with others and responsibility are significant factors in the achievement of competence and the safety of air traffic. Competence can only be observed through performance. However, it is not possible to directly observe all the different skills which contribute to competence, especially the cognitive skills; instead they are inferred from observations of the ATCO performing the tasks. For example, while observing the performance of a trainee who is establishing an arrival sequence, it is not possible for the trainer

to directly observe whether the trainee has achieved an effective sequence through adequate planning and appropriate situation awareness or whether the sequence has been achieved by the trainee reacting to events and chance circumstances. However, after repeatedly observing the trainee consistently achieving an effective sequence, it is reasonable for the trainer to assume that this is not being accomplished through chance and that the appropriate competencies have been acquired.

### **1.3 Methods of Competence Assessment**

#### **1.3.1 Written Examination (Theory)**

1.3.1.1 A method of testing an examinee's and ATCO's knowledge and understanding, which comprises three parts:

- a) general section - addressing required basic knowledge of the associated Rating;
- b) local procedures section - focus on the unit's special procedures; and
- c) abnormal situation section - focus on unusual circumstances and emergency procedures.

1.3.1.2 The questions may be in the form of multiple choices, subjective, fill-in-the-blanks, matching statements, true/false statements or a combination of the above, with a total number of questions suitable to be answered in 1 hour 30 minutes.

#### **1.3.2 Practical Examination**

1.3.2.1 To conduct a practical examination, the ATCEs assigned (Examination Panel) sit with the examinee or ATCO with the sole purpose of assessing the quality and standard of work being carried out. The examinee concerned shall be briefed on the conduct of the examination.

1.3.2.2 If an examinee or ATCO's performance is assessed only in some working situations, in particular under low traffic volume, the assessment shall be supplemented by questioning the examinee or ATCO on other situations, e.g. low visibility operations, military activity, etc.

1.3.2.3 Following a practical assessment i.e. before Oral Examination, the Examination Panel shall de-brief the examinee or ATCO and give feedback regarding the quality of working practices observed.

#### **1.3.3 Oral Examination**

1.3.3.1 The oral examination is usually carried out after the practical assessment. All key performance objectives must be tested to confirm understanding. Scenario-type questioning allows the Examination Panel to gather additional evidence of

how an examinee or ATCO would have reacted in circumstances that were not observable but are nevertheless considered important to the overall operation at that Unit.

- 1.3.3.2 The oral process requires the considerable skill of ATCEs in forwarding questions to the examinee/ATCO. The questions asked should be clear to the examinee/ATCO to enable them to answer. It is a challenging situation to ensure consistency as each ATCE has their own style/way of conducting the Oral Examination. Hence, it is important to have a structured training process for ATCEs in conducting the Oral Examination.

#### **1.4 Consistency of ATCO's Competence Assessment**

- 1.4.1 The competence assessment procedure shall contain procedures to ensure consistency. ATSU's ATCEs should all assess to the same standard. It is recommended that the ATSUs should designate one ATCE to be the Lead Examiner. The Lead Examiner shall be responsible for ensuring consistency of assessment amongst the ATCEs at his unit/station and shall meet with them at regular intervals to ensure consistency throughout the ATSU.

*Note. – ATCE's duties may also include taking part in simulations and checking out controller's following the introduction of new operational procedures. They will inevitably have a role to play in unit investigations following incidents/accidents in determining whether or not a controller's competence is in doubt.*

- 1.4.2 For Proficiency Examinations, ATCEs require a reasonable period of time to monitor and report on the examinee or ATCO whose competence they are required to assess. When deciding on the number of examinee or ATCO to be assessed in a shift, the following shall be considered:
- a) ATSU's operational complexity;
  - b) volume of traffic movement; and
  - c) the way they allocate controllers for operational duty.



## 2 ATC Examination Administration

### 2.1 Submission of Examination Notification

2.1.1 ATSP shall submit the ATC Examination notification to ANSA using the format as follows:

| No | Name | ATC Licence No | OJT/Familiarisation Period | Total Hours | Exam Type | Theory Exam Date | Practical & Oral Exam Date | Remarks |
|----|------|----------------|----------------------------|-------------|-----------|------------------|----------------------------|---------|
|    |      |                |                            |             |           |                  |                            |         |

### 2.2 Marking of Answer Scripts

2.2.1 On completion of the examination, marking of answer scripts shall be carried out by the unit's designated ATCEs in accordance with the approved answer schemes. The Invigilator shall hand over the answer script(s) to the dedicated ATCE for marking and safe keeping. The marked answer scripts shall be submitted to ANSA together with the examination result for record and filing. ATSU's shall keep a copy of the answer script(s) for future reference.

### 2.3 Announcement of Theory Examination Result

2.3.1 Result of the theory examination shall be announced by the ATSP dedicated ATCE.

2.3.2 In the event of an ATCO fails the Theory Examination, that ATCO is considered not to have met the examination and licensing requirements. Hence, the ATCO (who is an active controller) shall be immediately be relieved from ATC operational duties until he/she passes the repeat Theory Examination.

### 2.4 Announcement of Examination Result

2.4.1 The examination result shall be announced to the examinee, as soon as possible, once the practical examination or practical & oral examination completed.

2.4.2 A re-sit shall be allowed within a reasonable time after sufficient training to overcome deficiencies has been completed.

### 2.5 Submission of Examination Report

2.5.1 The ATSP dedicated ATCE shall ensure that form CAAM/BPUA/EXM/01 and form CAAM/BPUA/EXM/02 is filled correctly with the following details before submitting to ANSA for endorsement and record:

- a) Name of the Examinee (with correct spelling);



- b) ATC Licence Number & Identification Number;
- c) OJT Period (if applicable);
- d) Position being assessed & Station;
- e) Type of examination & date;
- f) Result for theory, practical & oral examinations;
- g) Comment and recommendation;
- h) Examiner Panel signature; and
- i) Examinee acknowledgement signature.

2.5.2 The ATC Examination report of an examinee who has failed on the first attempt shall be submitted to ANSA for record purposes.



### 3 Authorised Examiner

#### 3.1 Application for Authorised Examiner

3.1.1 The application of Authorised Examiner shall be submitted to ANSA together with the safety risk analysis to evaluate the level of safety that will be ensured if an Authorised Examiner is issued.

3.1.2 ATSP shall submit the nomination with recommendation from the ATSP head office using the format below together with SRA in para 3.1.1 to ANSA.

#### 3.2 Nomination Format

3.2.1 Format for Authorised Examiner nomination are as follows:

| No. | Name | ATC Licence No | Number of Years As ATCO | ELP    | Current Ratings                      | Current Ratings Duration | Last ATC Exam on Current Rating | ATC Examiner Nominated For           |
|-----|------|----------------|-------------------------|--------|--------------------------------------|--------------------------|---------------------------------|--------------------------------------|
| 1   | Ray  | L 001          | 39 years                | Lev. 6 | 1. Aerodrome<br>2.Area<br>Procedural | 10 years<br>5 years      | xx.xx.2019<br>xx.xx.2019        | 1. Aerodrome<br>2.Area<br>Procedural |
|     |      |                |                         |        |                                      |                          |                                 |                                      |



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## 4 ATC Examiner (ATCE)

### 4.1 Nomination for ATC Examiner (ATCE)

4.1.1 Nomination for ATCE shall be submitted to ANSA at least two (2) months before the expiry date of appointment. In other cases, nomination for additional or replacement of ATCE shall be submitted to ANSA as soon as possible.

4.1.2 ATSP shall submit the nomination using the format as per item 2 below to ANSA with a recommendation from the ATSP head office.

### 4.2 Nomination Format

4.2.1 Format for ATC Examiner (ATCE) nomination are as follows:

| No. | Name | ATC Licence No | Number of Years As ATCO | ELP     | Current Ratings                       | Current Ratings Duration | Last ATC Exam on Current Rating | ATC Examiner Nominated For            |
|-----|------|----------------|-------------------------|---------|---------------------------------------|--------------------------|---------------------------------|---------------------------------------|
| 1   |      | L 001          | 39 years                | Level 6 | 1. Aerodrome<br>2. Area<br>Procedural | 10 years<br>5 years      | xx.xx.2019<br>xx.xx.2019        | 1. Aerodrome<br>2. Area<br>Procedural |
|     |      |                |                         |         |                                       |                          |                                 |                                       |

### 4.3 Developing Performance Objectives for ATCEs

4.3.1 It is considered appropriate that the competence of those responsible for confirming both the first competence (Rating) and the ongoing competence (Validation/Proficiency/Competency) of air traffic controllers at an operational unit should also be subject to a quality check or assessment conducted by ANSA Inspector.

4.3.2 In order to assess the ATCE, performance objectives must be developed. These will be used to define the required training of ATCE and thereafter to confirm their ongoing competence.

4.3.3 The following table could, therefore, be used during the formal assessment of the ATCE. This table is merely an example of how a checklist is constructed using the performance objectives as “Prime tasks” and “Sub tasks”. The table includes a “Remarks” column for each sub-task and a “Conclusion” box where the overall outcome of the assessment may be recorded.



| Prime Task   | Sub Task   | Remark |
|--|--|--------|
| Briefing   | <ul style="list-style-type: none"><li>• The controller is fully briefed before the assessment.</li><li>• The controller is aware of the implications of the assessment.</li></ul>  |        |
| Collect and assess performance evidence by observation | <ul style="list-style-type: none"><li>• Real-time notes are taken.</li><li>• Notes accurately represent occurrences during the assessment.</li><li>• Reconstruction of events from notes is possible.</li><li>• The assessor remains as discreet as possible.</li><li>• The assessment is properly carried out.</li><li>• Performance is accurately assessed against the requirements for air traffic controllers.</li></ul>                 |        |
| Ensure observations by appropriate questions           | <ul style="list-style-type: none"><li>• Questions asked are valid and unambiguous.</li><li>• The assessor adopts a positive, non-aggressive attitude.</li></ul>  |        |
| Collect, assess and record supporting evidence         | <ul style="list-style-type: none"><li>• Evidence can be reliably attributed to a particular controller.</li><li>• Evidence is sought from the unit competence records.</li><li>• Where additional evidence is gathered it is correctly recorded.</li><li>• Where the controller makes claims directly relating to performance under review, these statements are correctly recorded.</li><li>• All relevant evidence is considered</li></ul> |        |
| Prepare Reports  | <ul style="list-style-type: none"><li>• Evidence and assessment decisions are recorded.</li><li>• Reports are made in accordance with unit procedures.</li><li>• Recommendations for remedial training, where required, are realistic in both time and content.</li><li>• Confidentiality is maintained.</li></ul>   |        |
| Discuss the outcome with the controller                | <ul style="list-style-type: none"><li>• A comprehensive debrief is carried out.</li><li>• Confidentiality is maintained.</li></ul>   |        |
| Conclusion   |  |        |

#### **4.4 Good Traits of ATCEs**

- 4.4.1 Be able to assess an integrated performance and, at the same time, evaluate the performance of separate competencies – Since one of the competency requirements is that the examinee demonstrates an integrated performance of the competencies, the examiner is required to evaluate if this integration has been achieved. In addition, when the performance is not at the competency standard that is being assessed, the examiner should be capable of identifying if any of the individual competencies may be inadequate and provide clear evidence for the resulting conclusions.
- 4.4.2 Conduct assessment(s) by gathering evidence of competent performance – Examiners obtain and assess evidence to determine if an examinee is competent. To do this effectively the examiner should be capable of sound judgement, possess analytical skills and be able to distinguish crucial or essential issues from less important ones. A significant part of gathering evidence is done through observation of performance; however, it may be necessary to ask examinees to explain some of their thinking so as to evaluate their cognitive skills. The examiner should be able to manage this interaction with the examinees tactfully and recognise when it is most appropriate to make these enquiries. To this end, the examiner should be constantly aware of the effects of assessment observations and personal interactions during the assessments. It may be necessary, or possibly even planned, that these questions take place during a dedicated interview or as part of a debriefing after the practical session. The examiner should use the evidence obtained to reach a substantiated final conclusion about the practical performance of the examinee.
- 4.4.3 Use the tools provided in the assessment plan – The assessment plan provides not only the details of when and what will be assessed but also includes the tools to be used to assess competence. These include the evidence guide, the competency checklist and the competency assessment forms. Examiners should be sufficiently familiar with the evidence guide and competency checklist to ensure that during summative assessments their attention is focused mainly on observing the performance of the examinee and not on finding information in the tools or working out how to use the tools.
- 4.4.4 Debrief the examinees in a manner that will aid their progress – Being assessed, particularly in the case of summative assessments, can be a stressful experience for examinees. Nonetheless, the examiner should be able to debrief the examinee in a manner that encourages a positive mindset and a willingness to continue to learn and make progress. In some instances, particularly where the examinee's performance has been considerably below the standard, the examiner should consider the human aspects of delivering difficult messages and take care that the feedback is objective, can be substantiated and that the examinee understands what needs to be changed to improve performance.



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## **5 Conduct of Theory Examination**

### **5.1 Invigilation Arrangements**

- 5.1.1 The Invigilator is the person in the examination room responsible for conducting a particular examination session in the presence of the examinee(s). Invigilators have a key role in upholding the integrity of the examination process.
- 5.1.2 The Invigilator may or may not be an ATCE, however, the use of ATCE as the Invigilator is encouraged.
- 5.1.3 The role of the Invigilator is to ensure that the examination is conducted accordingly in order to:
- a) ensure examinee(s) have an equal opportunity to demonstrate their abilities;
  - b) ensure the security of the examination before, during and after the examination, such as lifting all electronic gadget or reading materials away;
  - c) prevent possible examinee malpractice; and
  - d) prevent possible administrative failures.
- 5.1.4 If more than one Invigilator are assigned, at least one invigilator must be present in the examination room at all times.
- 5.1.5 In the event an Invigilator is changed, one invigilator must be present in the examination room at all times.
- 5.1.6 Make sure that all invigilators are briefed on their roles especially if the invigilators are not ATCEs.

### **5.2 Administering the Theory Examination**

- 5.2.1 Wherever possible, all examinees shall be seated facing in the same direction.
- 5.2.2 Each examinee should have a separate desk or table big enough to hold question papers and charts (as appropriate). Examinees who are not working at individual desks must be far enough apart so that their work cannot be seen by, and contact cannot be made with other examinees.
- 5.2.3 Each examinee shall be given a different set of Question Paper if more than one examinee sitting for the theory examination at the same time in the same room.
- 5.2.4 Examinee(s) sitting for repeat theory examination, shall answer a different set of Question Paper from the previous sitting.
- 5.2.5 Examinee(s) shall not be given same set of QB in two (2) consecutive years.



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## **6 Practical Examination**

### **6.1 Preparation Prior to Conduct of Practical Examination**

- 6.1.1 In the case of theory and practical examination are conducted on a same day, the ATCE whom conduct the practical session, shall collect the marked theory examination paper/theory examination result from dedicated ATCE thirty (30) minutes before commencement of the practical examination.
- 6.1.2 The ATCE whom conduct the practical session shall go through the answer script/theory result to ensure that the examinee has passed the theory examination in order to be eligible to proceed with the practical examination.

### **6.2 The ATCE Arrangement**

- 6.2.1 In the event of a repeat examination, ATSP shall propose a different ATCE.
- 6.2.2 The ATCE panel for new ATCS shall be approved by ANSA.

### **6.3 The ATCE Task During Practical Examination**

- 6.3.1 The ATCE shall not be involved in relieving any other operational position during the conduct of a practical examination.
- 6.3.2 Collect and assess performance evidence by observation:
- a) real-time notes are taken;
  - b) notes accurately represent occurrences during the assessment;
  - c) reconstruction of events from notes is possible; and
  - d) the assessment is conducted in a professional manner.
- 6.3.3 Ensure observations with appropriate questions:
- a) questions asked are valid and unambiguous;
  - b) the ATCE shall adopt a neutral but positive, non-aggressive attitude; and
  - c) the ATCE shall ensure that questions asked during practical examination are appropriate and would not cause distortion to examinee's focus.
- 6.3.4 Collect, assess and record supporting evidence:
- a) evidence can be reliably attributed to a particular ATCO;
  - b) evidence is sought from the unit competence records (e.g. Training Log Book);
  - c) where additional evidence is gathered, it is correctly recorded;

- d) where the ATCO makes claims directly relating to performance under review, these statements are correctly recorded; and
- e) all relevant evidence is considered.

6.3.5 Prepare reports:

- a) evidence and assessment decisions are recorded;
- b) reports are made in accordance with unit procedures;
- c) recommendations for remedial training, where required, are realistic in both time and content; and
- d) confidentiality is maintained.

6.3.6 Discuss the outcome with the examinee:

- a) a comprehensive debrief is carried out; and
- b) confidentiality is maintained.

**6.4 Conduct of Practical Examination**

6.4.1 To conduct a practical examination, the ATCE shall sit with the examinee/ATCO with the sole purpose of observing and assessing the quality and standard of work being carried out.

6.4.2 The following table could be used during the assessment of the examinee/ATCO. This table is merely an example of how a checklist is constructed using the performance objectives as “Prime Task” and “Sub Task”. The table includes a “Remarks” column for each sub-task and a “Conclusion” box where the overall outcome of the assessment may be recorded.



| Prime Task   | SubTask   | Remark   |
|--|---|--|
| Aerodrome Control/<br>Approach Control<br>Procedural/<br>Approach Control<br>Surveillance/<br>Area Control<br>Procedural/<br>Area Control<br>Surveillance/ | Apply specialised knowledge in: <ul style="list-style-type: none"> <li>• Aerodrome layout, physical characteristics &amp; visual aids (if applicable)</li> <li>• Airspace structure</li> <li>• Applicable rules, procedures and sources of information</li> <li>• Air navigation facilities</li> <li>• Air traffic control equipment and its use</li> <li>• Terrain and prominent landmarks</li> <li>• Characteristics of air traffic and traffic flow (if applicable)</li> <li>• Weather phenomena</li> <li>• Emergency and Search &amp; Rescue plans</li> <li>• Principles, use and limitation of applicable ATS surveillance systems and associated equipment (if applicable)</li> <li>• Procedures for the provision of ATS surveillance service, as appropriate, including procedures to ensure appropriate terrain clearance (if applicable)</li> <li>• Identification, mode A/C &amp; label management (if applicable)</li> <li>• Separation (if applicable)</li> <li>• Radar Vectoring (if applicable)</li> <li>• Sequencing and speed control (if applicable)</li> </ul> | Questions may be forwarded during the assessment (Item A/B/C of Form CAAM/BPUA/EXM 01) |
| Equipment  | <ul style="list-style-type: none"> <li>• Uses equipment capabilities fully</li> <li>• Recognises equipment malfunction</li> </ul>   | (Item D of Form CAAM/BPUA/EXM 01)  |
| Management of Flight Strips / EFS  | <ul style="list-style-type: none"> <li>• Posting, review and arrangement of strips</li> <li>• Updating of information and strip marking</li> <li>• EFS appreciation and operation</li> </ul>  | (Item E of Form CAAM/BPUA/EXM 01)  |
| Coordination, Microphone and Intercom Technique  | <ul style="list-style-type: none"> <li>• Effectively communicates within same unit</li> <li>• Effectively communicates with other unit</li> <li>• Phraseology</li> <li>• Speech rate &amp; voice intelligibility</li> </ul>   | (Item F of Form CAAM/BPUA/EXM 01)  |
| Separation Standards, Local Procedures and Traffic Planning  | <ul style="list-style-type: none"> <li>• Selection and application of type of separation</li> <li>• Knowledge and application of local procedures</li> <li>• Appraisal and anticipation of traffic</li> <li>• Ability to adjust to traffic changes</li> <li>• Knowledge of aircraft performance</li> </ul>  | (Item G of Form CAAM/BPUA/EXM 01)  |
| Abnormal Situation   | <ul style="list-style-type: none"> <li>• Handling of emergency</li> <li>• Radio failure actions</li> </ul>  | (Item H of Form CAAM/BPUA/EXM 01)  |
| Training Appraisal   | <ul style="list-style-type: none"> <li>• Accomplishes training</li> <li>• Trainee's altitude</li> <li>• Willingness to cooperate with others</li> <li>• Decisiveness</li> <li>• Provide complete and accurate relief briefings</li> </ul>   | (Item I of Form CAAM/BPUA/EXM 01)  |
| Weather  | <ul style="list-style-type: none"> <li>• Good</li> <li>• Marginal</li> <li>• Bad</li> </ul>   | (Item K of Form CAAM/ANS/EXM 01)   |
| Workload   | <ul style="list-style-type: none"> <li>• Light</li> <li>• Moderate</li> <li>• Heavy</li> </ul>  | (Item L of Form CAAM/BPUA/EXM 01)  |



| Prime Task                   | SubTask   | Remark                            |
|------------------------------|---|-----------------------------------|
| Traffic Complexity           | <ul style="list-style-type: none"><li>• Routine, Not difficult</li><li>• Occasionally Difficult</li><li>• Mostly Difficult</li><li>• Very Difficult</li></ul>   | (Item M of Form CAAM/BPUA/EXM 01) |
| Comments and Recommendations | <ul style="list-style-type: none"><li>• Comments and Recommendations by OJT Coach / Training Officer / ATC Examiner(s)</li></ul>  | (Item N of Form CAAM/BPUA/EXM 01) |
| Customer Requirements        | <ul style="list-style-type: none"><li>• Respond to customer needs with business like explanations and effective use of RTF.</li></ul>   |                                   |
| Teamwork                     | <ul style="list-style-type: none"><li>• Appreciate that every team member can contribute in the promotion of good teamwork.</li><li>• Provide/obtain support.</li><li>• Respond to proposals from team members.</li><li>• Notify mistakes.</li><li>• Ensure safety and efficiency by good team performance.</li></ul> |                                   |

## 6.5 Traffic Debrief

- 6.5.1 Following a practical examination, the ATCE shall de-brief the examinee/ATCO and give feedback regarding the quality of working practices observed.
- 6.5.2 If the ATCE concludes that the examinee's/ATCO's performance is satisfactory, the assessment shall continue with the Oral Examination.
- 6.5.3 In the event of the examinee's/ATCO's performance is unsatisfactory, the ATCE shall terminate the examination, without continuing with the Oral Examination. Hence, the Oral Examination is considered not conducted but a Debrief is being given to the examinee.

## **7 Oral Examination**

### **7.1 Oral Examination**

- 7.1.1 The purpose of an oral examination is to assess the extent of the candidate's knowledge on matters pertaining to all aspects of ATC e.g. ability to apply knowledge to practical work, suitability in terms of attitude, approach and appreciation towards the ATC task to be performed.
- 7.1.2 Oral examination shall be carried out after the practical examination.
- 7.1.3 An examinee/ATCO who demonstrates practically that he/she can do the job (seen by direct observation) and can explain the reasons for acting in a particular way (verified through the oral element) has demonstrated understanding and has fulfilled the requirements to be considered competent.
- 7.1.4 The oral examination mainly establishes how the examinee/ATCO would work under circumstances the ATCE was unable to witness. Additionally, the Examiner Panel shall be able to focus on certain specific observations to provide clarification. The oral shall, therefore, give a clear indication that the examinee/ATCO knows, not only what he/she should be doing, but the reason why he/she was doing it.
- 7.1.5 Oral questions may be posed to the candidate based on the following:
- a) theory Examination Paper (where applicable) - clarification of incorrect/incomplete answers;
  - b) practical Examination - incorrect application of standard procedures, separation, phraseology, etc.; and
  - c) theoretical knowledge on relevant matters.
- 7.1.6 If an examinee fails the practical examination, no oral examination shall be conducted. Instead, a debrief session on the practical examination shall be carried out in order to highlight to the examinee the areas for improvements.

### **7.2 Panel of Examiners' Task During Oral Examination**

- 7.2.1 Forward questions to examinee/ATCO based on:
- a) performance objectives to confirm understanding of elements in para 7.3.2;
  - b) scenario-type question to allow the examiner to gather additional evidence of how an examinee/ATCO would have reacted in circumstances that were not observable but are nevertheless considered important to the overall operation at that Unit;
  - c) questions from the written theory examination where the examinee/ATCO either had correctly/incorrectly answered the theory question.



- 7.2.2 Record the oral questions and the examinee answers (satisfactory/unsatisfactory) in Form CAAM/BPUA/EXM 01.

## **8 Guidelines for Preparing the Theory Examination Paper**

### **8.1 General**

- 8.1.1 Prepare and compile the latest version of the documents required.
- 8.1.2 To be familiar with the assessment criteria.
- 8.1.3 Present a single clearly-defined problem that is based on a significant concept rather than on irrelevant or ambiguous ideas.
- 8.1.4 Use simple, precise and clear wording.
- 8.1.5 Exclude unnecessary or irrelevant information.
- 8.1.6 Refrain from providing avoidable clues to the correct answer.
- 8.1.7 Eliminate any systematic pattern for answers that would allow examinees to guess answers correctly.
- 8.1.8 Use answers from open-ended questions given in previous examinations to provide realistic distracters.

### **8.2 Preparing A Theory Examination Paper**

- 8.2.1 Provide general directions for the examination. Include the amount of time allowed for the examination, how the items shall be scored, and how to record answers. Set off the directions by appropriate spacing or different type style.
- 8.2.2 Arrange items systematically. If the test paper contains several types of items, group similar items (such as all multiple-choice items) together. Provide a clear set of directions for each new group of items.
- 8.2.3 Place the most difficult questions near the end of the examination paper so that examinees have time to answer more questions.
- 8.2.4 Provide ample spacing. Cramming too many questions into a page will only result in inefficiency during the administration and scoring of the examination paper.
- 8.2.5 Number the questions consecutively.
- 8.2.6 Do not split the question onto two pages. Keep introductory materials and the space for answering on the same page.
- 8.2.7 Place the alternatives to multiple-choice questions in a vertical column beneath the stem of the question, rather than across the page.



- 8.2.8 Number each page consecutively and indicate the total number of pages in the question paper. This prevents problems later when pages may become separated. Include a header.
- 8.2.9 Make sure all copies of the examination paper are legible and free of typographical or grammatical errors.
- 8.2.10 Work on a Specification Grid. Before and after setting the paper, check that all the questions are based on the respective syllabus.
- 8.2.11 Develop a Marking Scheme alongside the Specification Grid.

**8.3 Assembling A Theory Examination Paper**

- 8.3.1 Space examination questions so that they can be read, answered, and scored with the least amount of difficulty. Double-space between items.
- 8.3.2 Place answer spaces for objective questions in vertical columns for easy scoring with each answer space clearly associated with the corresponding item.
- 8.3.3 Provide adequate space for the examinees to answer short-answer questions. Provide a full page for answering lengthy essay questions.
- 8.3.4 Long complex questions are best split up by the use of subsidiary numbering systems.
- 8.3.5 Structured questions should follow a graded and logical sequence.
- 8.3.6 The information contained on a page should be well structured through the appropriate use of headings and sub-headings. This would help the examinees organise text in advance of reading.
- 8.3.7 Check that the diagrams, pictures or photographs used are necessary, helpful and of high quality.
- 8.3.8 Ensure that marks assigned for each question / exercise / section are clearly indicated on the paper.

**8.4 How to Construct Good Theory Examination Questions**

- 8.4.1 Guidelines for True or False Questions
  - a) test significant content and avoid unimportant statements.
  - b) write items that can be classified clearly as either true or false.

|   |             |
|---|-------------|
| Visual Departure procedure shall be applied during the VMC.     | Undesirable |
| Visual Departure procedure shall be applied during the daytime. | Desirable   |



- c) Include only a single major point in each item.
- d) try to avoid using words like “always,” “all”, or “never” which tend to make the statement false; words like “usually,” “often,” “many” usually make the statement true.
- e) avoid using negatively worded statements.
- f) try to avoid long drawn-out statements or complex sentences with many qualifiers.

|  |             |
|--|-------------|
| If an ELT signal, which cannot be associated with a known test, is heard controllers shall forward all information to the ATSC and RCC as it is received.  | Undesirable |
| When an ELT signal which cannot be associated with a known test is heard, controllers shall forward all information to the ATSC and RCC as it is received. | Desirable   |

- g) avoid tricky questions.

|   |             |
|---|-------------|
| Controllers should consider the turbulence associated with helicopter rotor wash and its effect on other aircraft, personal and vehicles operating within the affected area when issuing taxi clearance to a helicopter.  | Undesirable |
| Controllers should consider the turbulence associated with helicopter rotor wash and its effect on other aircraft, personnel and vehicles operating within the affected area when issuing taxi clearance to a helicopter. | Desirable   |

- h) put the items in a random order so as to avoid response patterns that could serve as clues (such as T, T, F, T, T, F).
- i) avoid making items that are true consistently longer than those that are false.
- j) use slightly more false items than true items. False items tend to discriminate more highly among candidates than do true items. Research shows that when candidates guess they are more inclined to respond with a true than with a false. We can compensate for this “agreeable response set” by having a few more false statements than true.

#### 8.4.2 Guidelines for Constructing Matching Questions

- a) use only items that share the same foundation of information.
- b) include directions that clearly state the basis for matching the stimuli with the responses.
- c) put the problems or the stems (typically longer than the responses) in a numbered column at the left, and the response choices in a lettered column at the right. Because the candidate must scan the list of responses for each



problem, one should keep the responses brief. This save reading time for the examinee.

- d) always include more responses than questions. If the lists are the same length, the last choice may be determined by elimination rather than knowledge.
- e) arrange the list of responses in alphabetical or numerical order if possible in order to save reading time.
- f) avoid grammatical or other clues to the correct response.
- g) all the response choices must be plausible, but make sure that there is only one correct choice for each stem or numbered question.

Examples:

**Undesirable**

Directions: Match the following.

| Column I  |
|---|
| Permission to cross landing area or to move on to taxiway |
| Give way to other aircraft and continue circling          |
| Taxi clear of the landing area in use                     |
| Cleared to land   |
|   |

| Column II     |
|---------------|
| Steady Green  |
| Red Flashes   |
| Green Flashes |
| Steady Red    |
| White Flashes |

**Desirable**

Directions: On the line to the left of each meaning of Light Signals for aircraft in flight in Column I, write the letter of the Light Signal colour presented in Column II. Use each colour of light signal only once.

| Column I  | Column II        |
|---|------------------|
| _____ 1. Aerodrome unsafe. Do not land.                   | A. Steady Green  |
| _____ 2. Give way to other aircraft and continue circling | B. Red Flashes   |
| _____ 3. Land at this aerodrome. Proceed to apron.        | C. Green Flashes |
| _____ 4. Cleared to land                                  | D. Steady Red    |
|   | E. White Flashes |



**Desirable**

Directions: Match the meaning of Light Signals for aircraft in flight in Column I with Light Signal colour presented in Column II using a straight line. Use each colour of light signal only once.

| Column I   | Column II     |
|--|---------------|
| Aerodrome unsafe. Do not land.                   | Steady Green  |
| Give way to other aircraft and continue circling | Red Flashes   |
| Land at this aerodrome. Proceed to apron.        | Green Flashes |
| Cleared to land                                  | Steady Red    |
|  | White Flashes |

8.4.3 Guidelines for Completion Type Questions

- a) Do not omit so many words from the statement that the intended meaning is lost.

Examples:

**Undesirable**

When issuing taxi clearance to a helicopter, controllers should take into account ..... the associated with helicopter ..... and its effect on other ....., ..... and ..... operating within the affected area.

**Desirable**

When issuing taxi clearance to a helicopter, controllers should take into account the turbulence associated with helicopter rotor wash and its effect on other aircraft, ..... and ..... operating within the affected area.

- b) Omit only significant words from the statement.

Examples:

**Undesirable**

As the minimum holding level at VIH and some inner hold within Ipoh Control Zone is \_\_\_\_\_ ft, Sector 1 shall only descend flight arriving into Ipoh to \_\_\_\_\_ ft on \_\_\_\_\_ North, \_\_\_\_\_ North and \_\_\_\_\_.

**Desirable**

As the minimum holding level at VIH and some inner hold within Ipoh Control Zone is 6500ft, Sector 1 shall only descend flight arriving into Ipoh to 8000ft on \_\_\_\_\_ North, \_\_\_\_\_ North and \_\_\_\_\_.

- c) Avoid obvious clues to the correct response.

Examples:

**Undesirable**

Other known traffic should be separated from the aircraft dumping fuel by at least \_\_\_\_\_ horizontally, but not behind the aircraft dumping fuel.

**Desirable**

What is the applicable horizontal separation between other known traffic and the aircraft dumping fuel?

d) Be sure there is only one correct response.

Examples:

**Undesirable**

The approach and runway lightings shall be displayed until \_\_\_\_\_ after any ATD.

**Desirable**

The approach and runway lightings shall be displayed until \_\_\_\_\_ minutes after any ATD.

e) Avoid grammatical clues to the correct response.

Examples:

**Undesirable**

An aircraft which has been observed or reported to be operating in a given area but whose identity has not been established is called an .....

**Desirable**

An aircraft which has been observed or reported to be operating in a given area but whose identity has not been established is called a(n) .....

f) If possible, put the blank at the end of a statement rather than at the beginning.

Examples:

**Undesirable**

.....is that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

**Desirable**

That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons is called .....

8.4.4 Guidelines for Multiple Choice Questions

a) When possible, state the stem as a direct question rather than as an incomplete statement.

Examples:

**Undesirable**

Advisory Route is a route .....

**Desirable**

What does Advisory Route mean?

b) Present a definite, explicit and singular question or problem in the stem.

Examples:

**Undesirable**

Strayed aircraft is ...

**Desirable**

Strayed aircraft is the term to describe an aircraft...

c) Eliminate excessive verbosity or irrelevant information from the stem.

Examples:

**Undesirable**

The following statements regarding start-up and taxiing procedures to be adopted by SMC as a measure to prevent fuel consumption penalty incurred by jet and turbo-prop aircraft when operating on ground are true EXCEPT:

**Desirable**

To prevent fuel consumption penalty incurred by jet and turbo-prop aircraft when operating on ground, SMC controllers shall adopt the following procedures EXCEPT:

d) Include in the stem any word(s) that might otherwise be repeated in each option.

Examples:

**Undesirable**

Unidentified aircraft is the term to describe...

A. An aircraft that has deviated significantly from its intended track and whose identity has not been established.

B. An aircraft that has deviated significantly from its intended track or which reports that it is lost.

C. An aircraft that has been observed or reported to be operating in a given area but whose identity has not been established.

D. An aircraft that has no radio contact but whose identity has been established.

**Desirable**

Unidentified aircraft is the term to describe an aircraft that has ...

A. deviated significantly from its intended track and whose identity has not been established.

B. deviated significantly from its intended track or which reports that it is lost.

C. been observed or reported to be operating in a given area but whose identity has not been established.

D. no radio contact but whose identity has been established.

e) Use negatively stated stems sparingly. When used, underline and/or CAPITALISE the negative word.

Examples:

**Undesirable**

To prevent fuel consumption penalty incurred by jet and turbo-prop aircraft when operating on ground, SMC controllers shall adopt the following procedures except

**Desirable**

To prevent fuel consumption penalties incurred by jet and turbo-prop aircraft when operating on the ground, SMC controllers shall adopt the following procedures EXCEPT:

f) Make options mutually exclusive.

Examples:

**Undesirable**

The definition of Night is the time between ..... minutes after sunset and ..... minutes before sunrise determined at surface level.

A. 15 - 20.

B. 20 - 25.

C. 10 - 15.

D. 25 - 30.

**Desirable**

The definition of Night is the time between minutes after sunset and minutes before sunrise determined at surface level.

A. 10.

B. 15.

C. 20.

D. 25.

g) Make options approximately equal in length to reduce the chance that a candidate will try to guess the correct answer based on the length of the statement.

8.4.5 Guidelines for Short-answer Questions

a) Word the questions to provide precise guidance about how the examinee should respond.

Examples:

**Undesirable**

State types of flight that require a pilot to file a flight plan.

**Desirable**

State **all 5** types of flight that require a pilot to file a flight plan.

b) Indicate to the examinee whether you expect him/her to use a particular method to arrive at the answer.

Examples:

**Undesirable**

Lateral separation between aircraft using the same navigational aid is deemed to exist when a certain condition is met.

Explain briefly the condition for the following scenario:

a. when both aircraft are tracking outbound from the aid.

b. when both aircraft are tracking to the aid.

**Desirable**

Lateral separation between aircraft using the same navigational aid is deemed to exist when a certain condition is met.

With the aid of a diagram, explain briefly the condition for the following scenario:

- a. when both aircraft are tracking outbound from the aid.
- b. when both aircraft are tracking to the aid.
- c) Indicate to the examinee what degree of precision you expect (for example, the number of decimal places) and whether you expect units to be included in the response.

Examples:

**Undesirable**

AXM1234 type of aircraft A320 from WMKK to WMKA descending to FL200 with speed 360kts. At 70DME VAS, the pilot reported the aircraft is experiencing loss of power to the extent that the aircraft was unable to maintain level flight and descending at the rate of 1600 feet per minute.

Calculate:

- i. the flight time remaining; and
- ii. the maximum distance the flight to reach an aerodrome.

**Desirable**

AXM1234 type of aircraft A320 from WMKK to WMKA descending to FL200 with speed 360kts. At 70DME VAS, the pilot reported the aircraft is experiencing loss of power to the extent that the aircraft was unable to maintain level flight and descending at the rate of 1600 feet per minute.

Calculate:

- i. the flight time remaining; and
  - ii. maximum distance (to the nearest NM) of the flight to reach an aerodrome.
- d) Establish guidelines for what answers will receive full or partial marks. Where appropriate, indicate the weight for each part of the question within the question itself.

Examples:

**Undesirable**

- a. Define Visual Approach.
- b. An IFR flight may be cleared to execute a visual approach provided that the pilot can maintain visual reference to the terrain and any one of 2 conditions is met.

List **all 2** conditions.

(6 marks)

**Desirable**

- a. Define Visual Approach. (2 marks)
- b. An IFR flight may be cleared to execute a visual approach provided that the pilot can maintain visual reference to the terrain and any one of 2 conditions is met.

List **all 2** conditions.

(4 marks)

[Total marks = 6]



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