

**DEPARTMENT OF CIVIL AVIATION
MYANMAR**



FLIGHT CREW LICENSING MANUAL

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PREFACE

This Flight Crew Licensing Manual is the technical guidance provided for the conduct of aviation safety oversight by the Department of Civil Aviation, Myanmar and training program to perform the flight crew licensing personal.

These manuals are produced to provide the information, policy and procedures necessary to perform tasks in support of the Myanmar Civil Aviation Requirements. All personnel assigned by the DCA to perform tasks that are addressed in this manual shall comply with these policies and procedures in the performance of their duties.

Comments and suggestions for amendment and or revision to this manual should be forwarded to the Director of Flight Standards Division or Director General of Department of Civil Aviation Myanmar.

The First Edition of Flight Crew Licensing manual is superseded by this Second Edition, dated 1st September 2013.

Tin Naing Tun
Director General
Department of Civil Aviation
Myanmar

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**DEPARTMENT OF CIVIL AVIATION
MYANMAR**



FLIGHT CREW LICENSING MANUAL

PART 1

GENERAL REQUIREMENTS AND PROCEDURE

PART 1
GENERAL REQUIREMENTS AND PROCEDURE

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- CHAPTER 1 GENERAL REQUIREMENTS OF FLIGHT CREW LICENSING SECTION
- CHAPTER 2 PROCEDURE FOR PROCESSING THE APPLICATIONS FOR ISSUE/ CONVERSION
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CHAPTER 1

GENERAL REQUIREMENTS OF FLIGHT CREW LICENSING SECTION

1 FUNCTIONS AND RESPONSIBILITIES

- (a) The assessment and approval of application for licenses and ratings.
- (b) Issue, renew and endorsement of licences, ratings and english language proficiency.
- (c) Validation of foreign license
- (d) Conversion of foreign licenses into Myanmar Licenses in their corresponding categories.
- (e) Amendments to Licensing Rules and Regulations
- (f) Approval of the training course, the approved training organization and make the safety oversight.

2 JOB DESCRIPTIONS

2.1 LICENSING OFFICER

- (a) Assess and approve applications for the issue or renewal of professional flight crew licenses and / or ratings.
- (b) Assess applications for the validation of overseas licenses and ratings to determine examination and flight test requirements.
- (c) Assess applications for the conversion of overseas licenses and ratings to determine examination and flight test requirements.
- (d) Evaluate military aircrew qualifications to determine examination and flight test requirements for civil license and/or rating issue.
- (e) Supervise day-to-day activities of the licensing Clerks.
- (f) Supervise the filing system.

2.2 LICENSING CLERK

- (a) Ensure a supply of application forms for all license and rating requirements.
- (b) Deal with the public on all matters appropriate to license or rating applications.
- (c) Handle routine correspondence in respect to applications for licenses or ratings, flight tests or any other routine clerical matters requiring action.
- (d) Process all license applications and prepare the material for the Licensing Officer.
- (e) Complete license forms and prepare licenses for official signature and
- (f) Maintain registers of license holders and files the documents for records.

3. FILING PROCEDURE

3.1 FILING LICENSE RECORDS

The paperwork associated with personal licenses is to be maintained in the respective license holder's file.

3.2 REMOVING A DOCUMENT FROM A PERSONAL FILE

Whenever a document is removed from a flight crew file, a photocopy of it must be placed in the file with a notation explaining why the document was removed and what its current location is.

3.3 ASSEMBLING PAPERWORK RELATING TO AN INDIVIDUAL PILOT

For special cases such as prosecutions, investigations or inquests, it should be possible to assemble all the relevant documents for an individual within a matter of hours, provided facsimiles are acceptable.

3.4 FILES RELATING TO A “ EXPIRED” LICENSE

At this time, personnel licenses are issued or renewed for a finite period. For example , Commercial Pilot and Airline Transport Pilot Licenses for twelve/six/three months. Personnel who have not renewed their licenses for 5 years or more are deemed to have a lapsed license and to have lost any examination credits. (Refer to the relevant Standards Document for further information). The files relating to an “ expired” license are sent to Archives.

3.5 RETENTION PERIOD

- (a) Files relating to licenses that expired for more than ten years should be marked EXPIRED and archived.
- (b) For deceased pilots should be marked DECEASED and archived.

3.6 CONFIDENTIAL AND SECURITY OF PERSONNEL FILE AND DATA

- (a) Must be kept these files as confidential.
- (b) Must be kept under locked and key.

CHAPTER 2
PROCEDURE FOR PROCESSING THE APPLICATIONS FOR
ISSUE / VALIDATION / CONVERSION OF PILOT LICENSE

1 THE APPLICATIONS RECEIVED FOR ISSUE OF LICENCES / RATINGS SHALL BE PROCESSED BY THE DEPUTY DIRECTOR (LICENSING) THROUGH THE SECTIONAL STAFF AS PER THE PROCEDURE GIVEN BELOW:-

- 1.1 Check whether the application received is in the format prescribed for the issue of that license/ rating.
- 1.2 Check whether all the documents required to be submitted with the application for issue are enclosed or not. Also check whether the documents mentioned as enclosed by the applicant in the application form are received in the appropriate format or not.
- 1.3 Check whether the fee prescribed has been paid.
- 1.4 The staff carrying out initial processing should then enter the details of the application in the section to draw out Check List for the license by entry in the data-base of FSD.

2 PROOF OF AGE:

The following documents, as evidence of date of birth or proof of age, are acceptable:

- (a) Class Ten Certificate of a recognized Board or its equivalent; or
- (b) National ID Card.

3 NATIONALITY:

Where an application shows nationality other than Myanmar, check the copy of the passport for validity and nationality shown on it.

4 KNOWLEDGE:

Check the results paper for its validity issued by CATI or the ATO to find out:

- (a) Whether results of all the applicable written examination/oral examinations have been given;
- (b) Whether the date(s) as given in the result paper(s) showing date of issue are not more than five years back from the date of application for issue of CPL and ATPL and 2 ½ years back from the date of application for issue of other flying licenses; the date of results shall be the date before the submission of documents in DCA.
- (c) Whether result paper is duly signed.
- (d) Whether the name shown on the result paper is the same as that of the applicant.
- (e) Whether there are any mutilations, tampering etc., in respect of words 'pass/fail' name etc in the result paper.

5 MEDICAL FITNESS:

- (a) Check the medical assessment. The validity of medical fitness and the applicable class of medical for issue/renewal are given in MCAR Part 2, 2.4.
- (b) Only original medical fitness assessments on standard format issued by DCA showing date of medical examination, limitation if any and the Class of medical assessment are to be accepted.
- (c) The remaining period of medical fitness assessment should be sufficiently long to cover for period of processing in the FSD so that it is valid when the licence is issued.

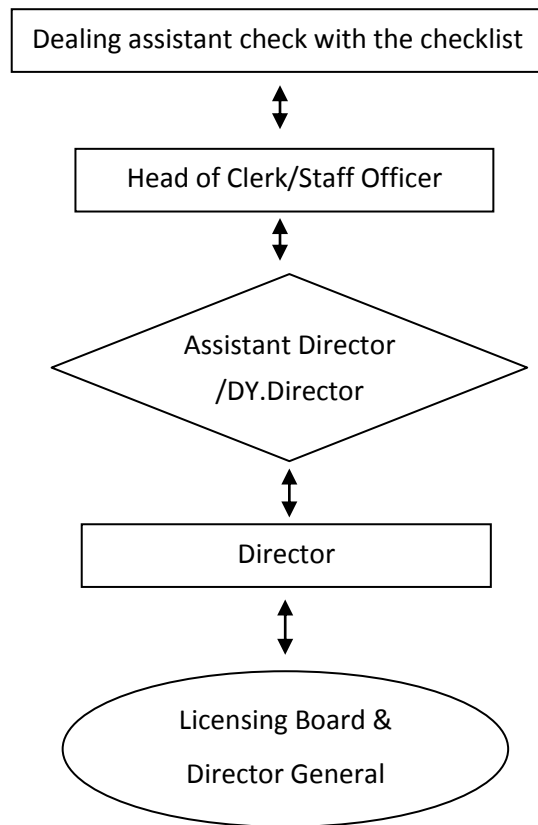
6 EXPERIENCE:

6.1 The details as contained in Form CA 103-D , 103-F and CA PPL are required to be given total, as pilot-in-charge etc., as applicable, for each license/rating according to provisions of appropriate sections of MCAR Part 2.

6.2 Following documents are to be examined:

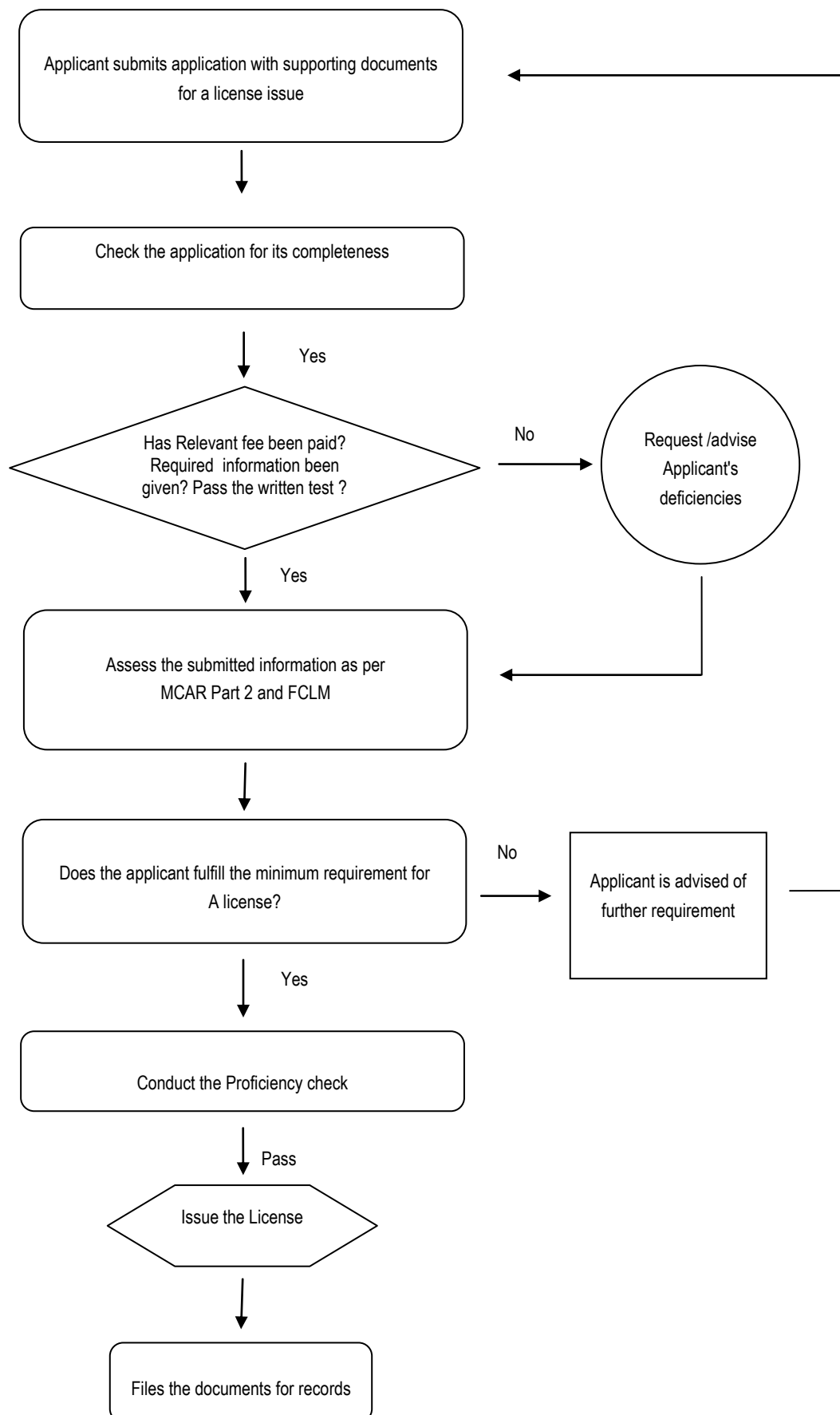
- (a) Pilot's personal flying log book;
- (b) All entries shall have been made in ink. The applicant should have certified the correctness of the entries in the log book with respect to flight time, at least at the end of each calendar month;
- (c) Personal flying log book(s) to cover the periods required for the licence/rating applied for;
- (d) The personal log book should have been certified for correctness of there in by competent authorities such as Operations Manager, Deputy Operations Manager, Chief Pilot in the case of professional pilots, the Chief Flying Instructor in the case of members of Flying Clubs/Training Institutions, every month in the year.
- (e) Flight time during which the applicant has performed under dual instructions should have been entered as "dual" and the pilot giving instructions should have shown the nature of training given;
- (f) Flight time spent in performing the duties and functions of a Pilot-in command should have been logged as Pilot-in-command, provided the applicant is entitled and authorized to fly in command of that aircraft by virtue of the ratings entered in the pilot's licence held. In all other cases, such flight time should have been logged as co-pilot with appropriate indications in the remarks column;
- (g) The holder of a student pilot's licence shall have been logged as Pilot-in-command only that portion of the flight time during which he was the sole occupant of the aircraft, provided that in case of an aircraft which requires more than one pilot,, he shall have logged as Pilot-in-command of the aircraft;
- (h) The holder of a private pilot licence shall have logged as Pilot-in-command only for the flight time during which he has acted as Pilot-in-command;
- (i) The holder of a Commercial Pilot Licence, Airline Transport Pilot Licence shall have logged as Pilot-in-command for the flight time during which he has acted as Pilot-in-command and he shall have logged as Co-Pilot for the flight time during which he has acted as Co-pilot.
- (j) The Flight Instructor shall have logged as Pilot-in-command the flight time during which he has acted as Instructor, but the entries should indicate in the remarks column that the flight time as shown has been flown as Instructor;
- (k) Where the instrument flight time has been performed by the applicant pilot while manipulating the controls of the aircraft in flight solely by reference to instrument flight conditions, it shall be counted in full;
- (l) Where instrument ground time has been performed by the applicant pilot while flying solely by reference to instruments in any recognized synthetic device which simulates instrument flight conditions, it shall be counted in full;
- (m) While examining the log books, it shall be ensured that all flight experience which is required to be shown as flight experience on aeroplane(s) as being performed on aeroplane(s) only. Similarly, all flight experience to be considered towards, flight experience on rotary wing, has been performed on rotary wing(s) only and not on fixed wing(s). This is applicable for other categories too, like gliders, balloons, and micro light.

7 SUBMISSION CHANNEL FOR APPROVAL OF LICENSES-ISSUE:

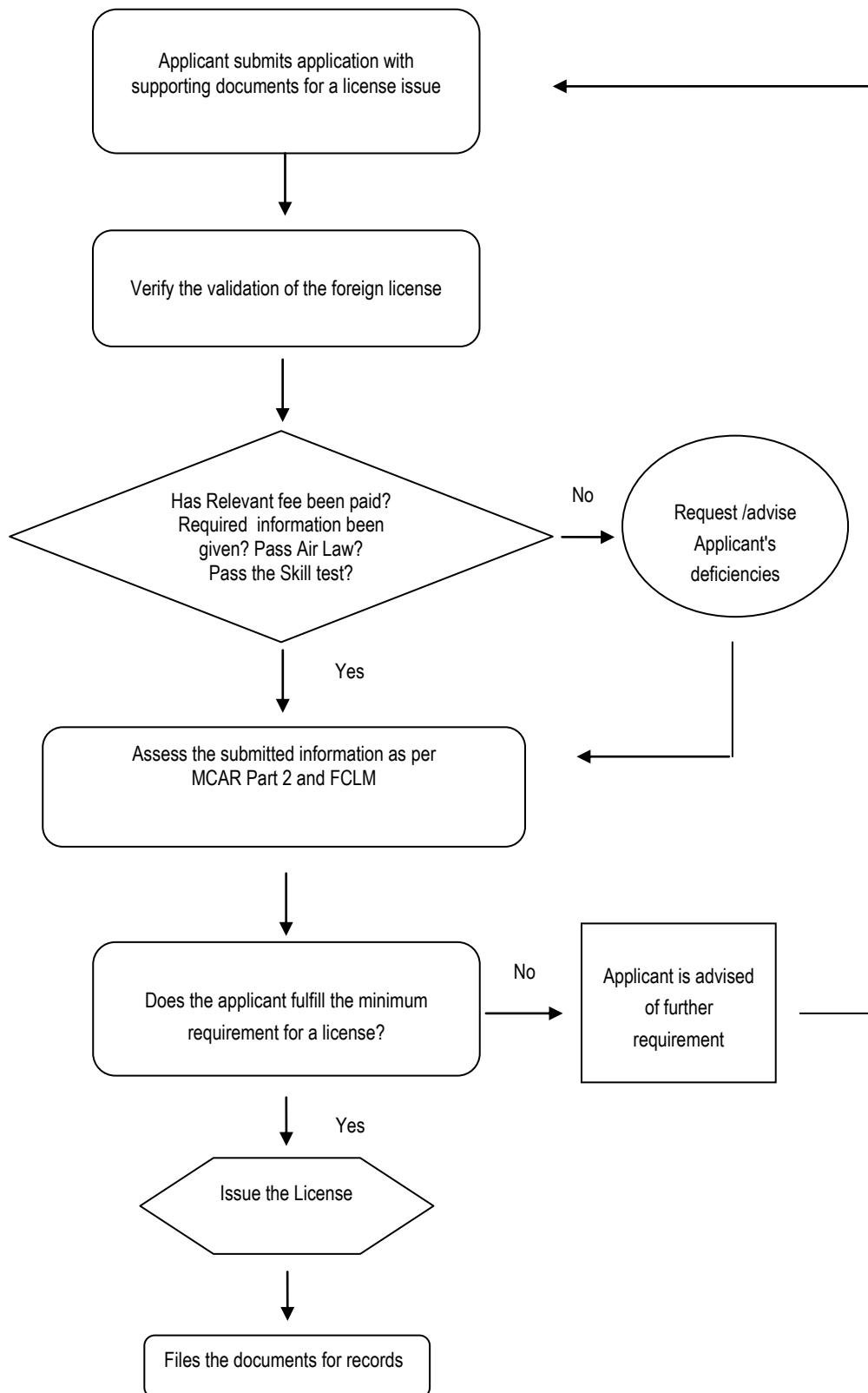


The Licensing Section's dealing staff will make in legible writing appropriate notations in note-sheet after examining the application as per the above guidelines and submit to the Head clerk or Staff officer for checking the examination carried. If satisfied, the Head clerk will make notation that he/she too has examined and there after submit the file to the Assistant Director or Dy.Director for final assessment of documents, evaluation experience and checking results and other requirements. If all the requirements are not complied with by the applicant, all the deficiencies shall be listed by the Head clerk on the note portion of the file and the papers/documents shall be returned, indicating the deficiencies, to the applicant after obtaining consent of the Dy. Director (Licensing) on the file. Where satisfied of the compliance of all requirements, the Dy. Director shall be submitted to the Director for his final assessment of documents, evaluation of experience, checking of results etc., and granting of the licence as per the Statutory powers. And then the Director shall be submitted to the Licensing board and Director General to issue the Licence.

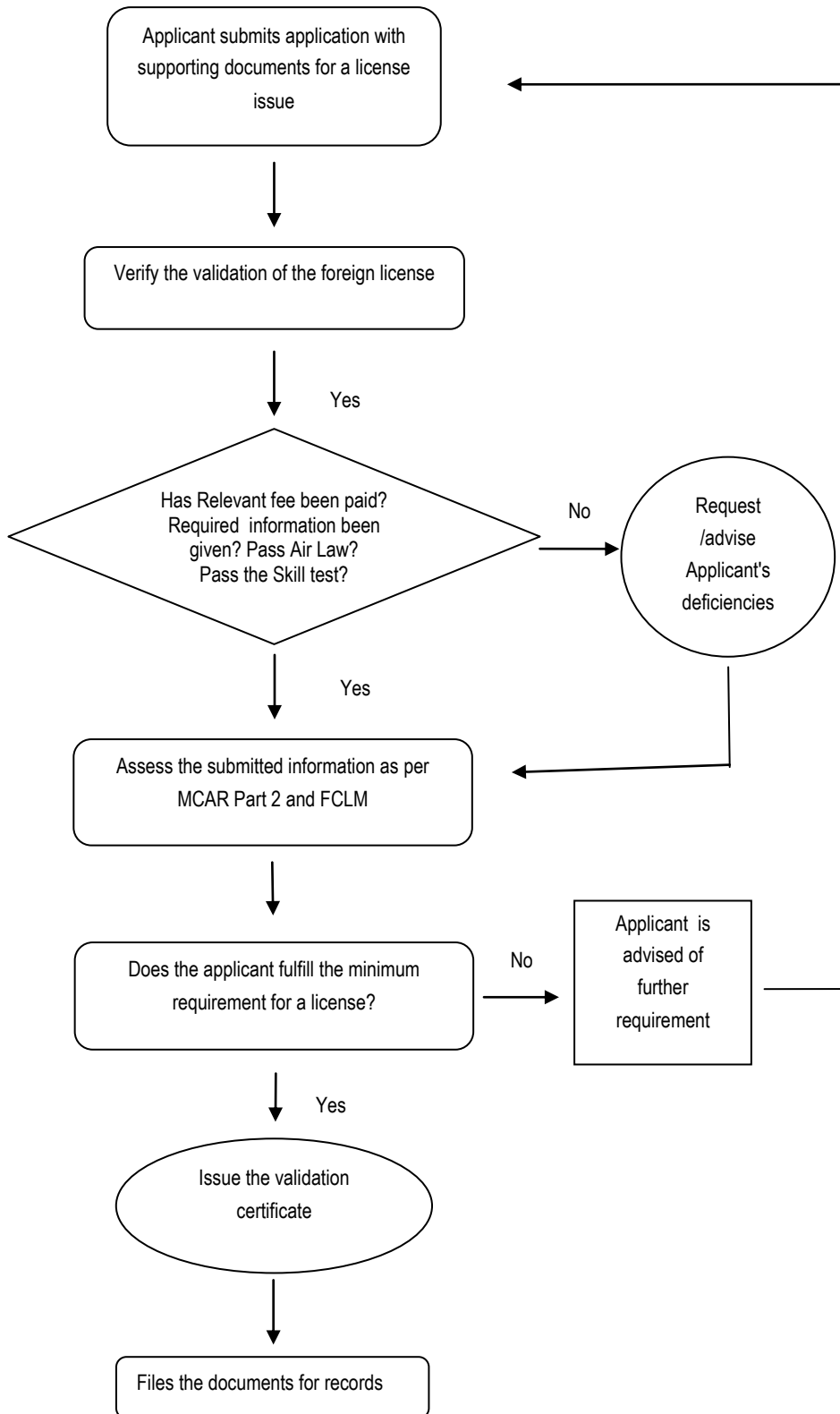
LICENSE ISSUE PROCESS FLOW CHART



CONVERSION PROCESS FLOW CHART



VALIDATION PROCESS FLOW CHART



CHAPTER 3
RENEWAL OF LICENSES & RATINGS

1 GENERAL:

The licences and ratings specified in MCAR Part 2 , 2.2.1 can be renewal, as per the following details:

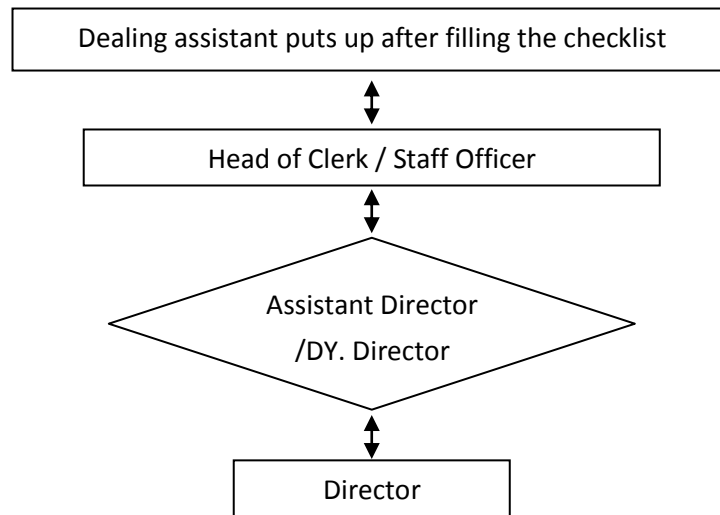
- (a) the licence /rating submitted by the applicant for renewal should be current and should have not more than fifteen days to go before its expiry.
- (b) The expired licences/ratings of applicants, provided the lapsed period does not exceed one month and the applicant is under the employment of a scheduled airlines.

2 APPLICATION FORM & ENCLOSURES FOR RENEWAL:

The application should be received in the format prescribed for renewal, duly dated and signed by the applicant and complete in all respects. The following enclosures, in original, should accompany the application form -

- (a) Licences and Ratings
- (b) Relevant Log Book(s)
- (c) Certificate of medical fitness (CA-120)
- (d) Proficiency Check (CA-105)
- (e) Renewal of Professional Pilots License (CA-103-A)
- (f) A Treasury Challan for the renewal fee.

3 SUBMISSION CHANNEL FOR RENEWAL OF LICENSES



4 FEES:

Check whether the fee prescribed has been paid.

5 PERIOD OF LAPSED LICENCE:

The time period since the licence/rating has lapsed should be checked out. If the licence/rating lapsed for more than six months, need to be enforced with. This may be referred to the MCAR Part 2, 2.3.1.8 and chapter 9 of the part 3 of this manual.

6 MEDICAL EXAMINATION:

Ensure that the applicant has undergone medical examination of the class appropriate to the licence. MCAR Part 2, 2.4 have to be followed; hence may be referred to. Briefly, the medical fitness requirements that may be adhered to are as follows;

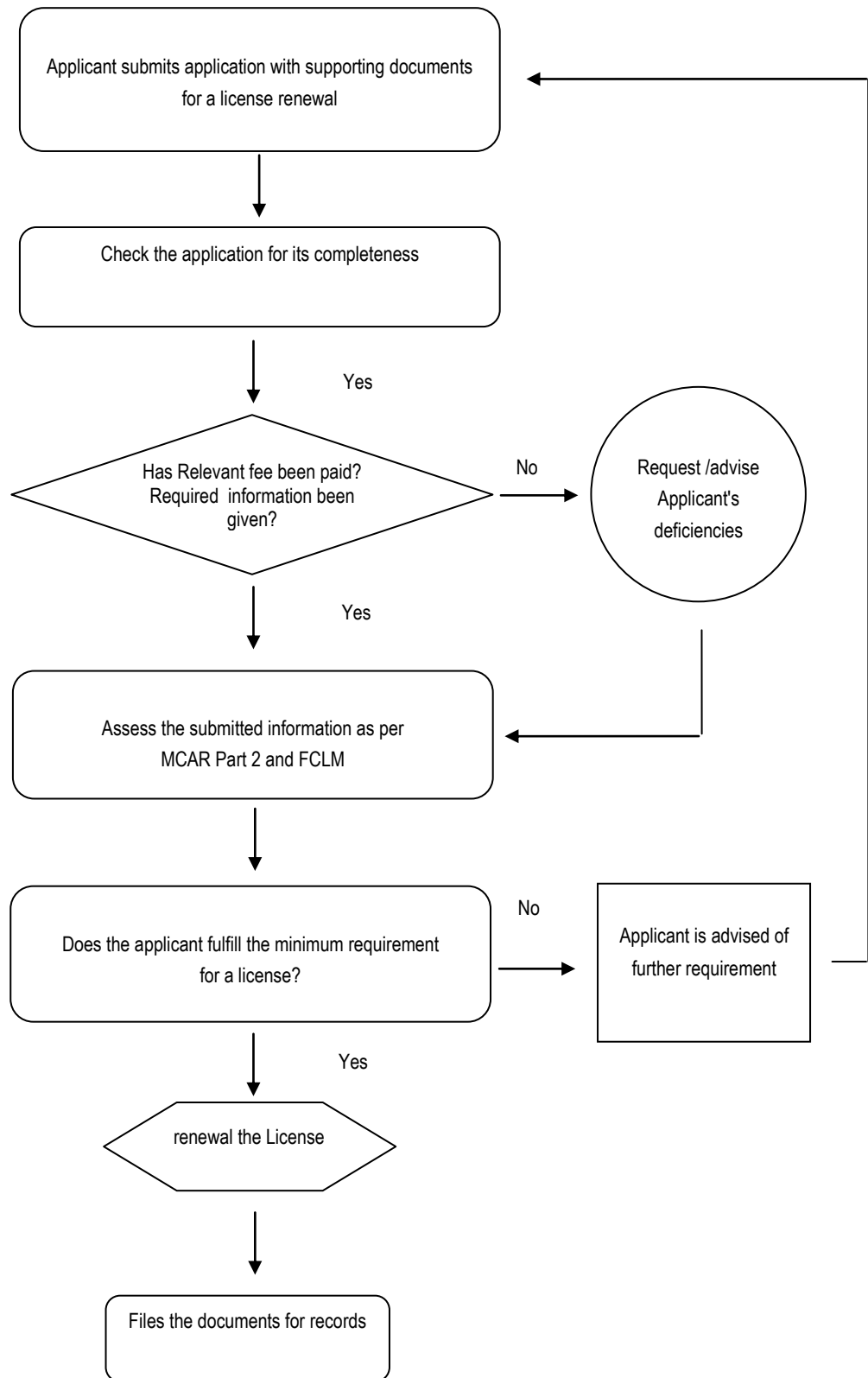
- (a) Initial / Renewal / Special Medical Examination CA Form 118
- (b) Medical Certificate CA Form 120
- (c) In the event of a licence holder having been declared medically temporarily unfit at any stage, the medical assessment issued by DCA only shall be accepted.

7 RECENT FLYING EXPERIENCE FOR RENEWAL:

The renewal of licences/ratings on the basis of recent flying experience in the past 90 days is laid out in the MCAR Part 8, 8.4.1.9 and MCAR Part 2, 2.6.1.6.

- 8 The case need to be examined by dealing staff on file in the backdrop of the guidelines as at above. The file will then be submitted through the channel prescribed, to the competent authority for approval. The physical entries are to be made in the licences in accordance with the approval given and the licence(s) / file may be resubmitted to the competent Authority for signatures on licence.

LICENSE RENEWAL PROCESS FLOW CHART



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FLIGHT CREW LICENSING MANUAL

PART 2

LICENSING OF STUDENT PILOT AND PRIVATE PILOT

PART 2
LICENSING OF STUDENT PILOT AND PRIVATE PILOT

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- F - INSTRUMENT RATING FLIGHT TEST SYLLABUS AND FLIGHT TEST CONDITIONS

CHAPTER 1

THE STUDENT PILOT LICENCE

1 AGE

- 1.1 The minimum age for the grant of a Student Pilot Licence (SPL) is 16 years as specified in the Myanmar Civil Aviation Requirements (Personnel Licensing).

2 REQUIREMENTS FOR A STUDENT PILOT LICENCE

- 2.1 For the grant of a Student Pilot Licence, no technical examination or air experience is required.
- 2.2 An applicant for a Student Pilot Licence is required to meet the Class 2 Medical Requirements as specified in the MCAR Part 2 -Flight Crew Licensing.
- 2.3 The validity period of a SPL is based on the medical certificate validity period. The period of medical validity is 60 months for the holder of a SPL below 40 years of age. In the case of a SPL holder who is 40 years of age or more but less than 50 on the date of his medical examination, his SPL will be valid for 24 months. The period of medical validity is 12 months for the holder of a SPL who is 50 years of age or more.

3 LICENCE PRIVILEGES

- 3.1 The privileges of the Student Pilot Licence are as specified in MCAR Part 2-Flight Crew Licensing.
- 3.2 The privileges are as follows:
- (a) entitle the holder who must be above 16½ years of age to fly as pilot-in- command of an aircraft under the supervision of, or with the authority of a flying instructor for the purpose of becoming qualified for the grant or renewal of a pilot's licence.
 - (b) shall be valid only for flights within Myanmar and any other country as specified in the licence.
 - (c) shall not entitle the holder to fly as pilot-in-command of an aircraft in which any person is carried or fly solo in an aircraft on an international flight unless under specified or general arrangement with the Contracting States concerned.
 - (d) shall be valid only for flights carried out in accordance with instructions given by a person holding a pilot licence granted under the Order, being a licence which includes a flying instructor rating or an assistant flying instructor rating entitling the holder to give instruction in flying the type of aircraft to be flown.
- 3.3 Application forms for a Student Pilot Licence may be obtained from:
- Department of Civil Aviation
(Flight Standards Division)
Yangon International Airport
Yangon, Myanmar. (www.dca.gov.mm)

4 VALIDITY OF STUDENT PILOT LICENCE

- 4.1 A Student Pilot Licence will remain valid for 60, 24 or 12 months as appropriate, or until the holder obtains another class of the licence e.g. Private Pilot Licence(PPL). The issue of another class of licence automatically terminates the validity of the Student Pilot Licence.
- 4.2 The procedure for renewal of an expired Student Pilot Licence is the same as that for initial issue of the licence.

CHAPTER 2
PRIVATE PILOT LICENCE (AEROPLANES)
GROUPS A, B AND C

1 AGE

- 1.1 The applicant must be not less than 17 years of age as specified in the MCAR Part 2- Flight Crew Licensing.

2 MEDICAL REQUIREMENTS

- 2.1 An applicant for a Private Pilot Licence (Aeroplanes) [PPL (A)] must meet the Class 2 Medical Requirements as specified in MCAR PART 2 - Flight Crew Licensing.
- 2.2 An applicant for a PPL (A) with Instrument Rating (IR) must meet the Class 1 Medical Requirements as specified in the MCAR PART 2 - Flight Crew Licensing.
- 2.3 The validity period of a PPL(A) is based on the medical certificate validity period. The period of medical validity is 60 months for the holder of a PPL(A) below 40 years of age. In the case of a PPL(A) holder who is 40 years of age or more but less than 50 on the date of his medical examination, his PPL(A) will be valid for 24 months. The period of medical validity is 12 months for the holder of a PPL(A) who is 50 years of age or more.

3 LICENCE PRIVILEGES

- 3.1 The privileges of a Myanmar PPL (A) are set out in the MCAR PART 2 - Flight Crew Licensing. The holder of the licence may fly as pilot-in-command (PIC) or co-pilot of an aeroplane specified in the Aircraft Rating of the licence. This is provided the licence contains a valid Medical Certificate and a valid Certificate of Test (C of T) or Certificate of Experience (C of E) endorsed in the licence.
- 3.2 The holder shall not fly an aeroplane for the purposes of public transport and aerial work or receive any remuneration for his services as a pilot.
- 3.3 The holder shall not fly as pilot-in-command (PIC) of an aeroplane on a flight outside controlled airspace where the flight visibility is less than 1 nm; or when any passenger is carried and the aeroplane is flying either above 3000 ft AMSL in IMC or at or below 3000 ft AMSL in a flight which visibility is less than 1 nm.
- 3.4 The licence privileges may be extended to include:
- (a) Instrument Rating; and
 - (b) Night Rating.

4 AIRCRAFT RATING

- 4.1 Class ratings are established for aeroplanes certificated for single pilot operations and comprised of:
- (a) Single-engine, land
 - (b) Single-engine, sea
 - (c) Multi-engine, land
 - (d) Multi-engine, sea
- 4.2 The Aircraft Rating as specified in the MCAR PART 2 - Flight Crew Licensing enables the licence holder to act as PIC of the following Group of aircraft contained in the Aircraft Rating page of the licence:
- (a) *Group A aircraft rating* - Entitles the holder to act as PIC of all single- engine aeroplanes not exceeding 5700 kg maximum total mass authorized.
 - (b) *Group B aircraft rating* - Entitles the holder to act as PIC of all multi-engine aeroplanes not exceeding 5700 kg maximum total mass authorized.

- (c) *Group C aircraft rating* - Entitles the holder to act as PIC of a specified type whose maximum total mass authorized exceeds 5700 kg.

5 VALIDITY OF AIRCRAFT RATING

- 5.1 The validity of an aircraft rating is maintained by the inclusion in the pilot's licence a valid C of T or C of E. The validity period of a C of T or C of E is 12 months.
- 5.2 The minimum flying experience required to maintain an Aircraft Rating is 6 hours as pilot of aeroplanes within the 12 months preceding the date of issue of a C of E or C of T. All flying must be completed within the validity period of an existing C of E or C of T.
- 5.3 Of the 6 hours minimum experience required, a minimum of 2 hours must be of dual flying instruction under a flying instructor. Upon completion of the dual flight(s), the instructor must certify that the pilot is fit to fly as PIC and so certifies in his logbook.
- 5.4 Flying experience towards the endorsement of C of E must be gained on a Myanmar registered aircraft. In the case of MAF pilots, flying experience gained in a military aircraft may be accepted for the renewal of a C of E. This is provided that the minimum 2 hours of dual flying instruction is conducted in a civilian aircraft.
- 5.5 Pilots with more than one Group of aeroplane on their licence wishing to maintain the validity of each Aircraft Rating must include at least 1 flight as PIC in each Group (or type in the case of Group C aeroplanes) in the Aircraft Rating of the licence as part of or in addition to the overall minimum 6 hours.
- 5.6 To revalidate the privileges of a lapsed Aircraft Rating:
 - (a) An applicant whose most recent C of T or C of E has expired by less than 5 years will be required to pass an Aircraft Rating Flight Test. In addition the applicant will also be required to pass the Human Performance and Limitations examination if he has not sat for this examination before.
 - (b) An applicant whose most recent C of T or C of E has expired by more than 5 years but less than 10 years will be required to:
 - (i) pass the Aviation Law, Flight Rules and Procedures and Aircraft Rating examination.
 - (ii) pass an Aircraft Rating Flight Test conducted by DCA; and
 - (iii) pass the Human Performance and Limitations examination (if he has not for this examination before).
 - (c) An applicant whose most recent C of T or C of E has expired by more than 10 years will be required to:
 - (i) pass all the ground examinations; and
 - (ii) pass an Aircraft Rating Flight Test conducted by DCA.

6 FLYING EXPERIENCE FOR INITIAL GRANT OF PPL (A)

- 6.1 An applicant for a PPL (A) flight test shall produce satisfactory evidence of having completed a total of at least 40 hours of flight time, or 35 hours if satisfactorily completed all ground examinations and an approved training course of flying to a syllabus approved by DCA, which should be carried out in a Group A aeroplane fitted with dual controls. The total of 40 hours (or 35 hours) must include at least:
 - (a) 10 hours of solo flight time under the supervision of an Assistant Flying Instructor (AFI) or a Qualified Flying Instructor (FI) including at least 5 hours of solo cross-country flight time with at least one cross-country flight totaling not less than 270 km (150 nm) in the course of which full stop landings at two different aerodromes shall be made.

- (b) 20 hours of dual flight time under the supervision of an AFI or a FI.

Note: (i) The minimum of 20 hours of dual flight time under the supervision of an AFI or FI must include at least:

- (a) 4 hours instruction in instrument flying.
- (b) 4 hours instruction in pilot navigation.
- (c) 2 hours stall awareness and avoidance training of which one hour must have been completed within the 6 months preceding the date the licence application submitted to DCA.

(ii) 'Approved Training' means training carried out under special curricula and supervision approved by DCA.

- 6.2 The flight time logged in the flight tests may be counted towards the 40 hours minimum experience requirement for the grant of a licence but not towards the 10 hours of solo flying time minimum requirement.
- 6.3 A Credit time of 5 hours in an approved synthetic flight trainer may be accepted towards the total flight time of 40 hours.
- 6.4 All flying in micro-light or motor gliders cannot be counted towards the grant of a PPL (A).

7 RESTRICTED PPL (A)

- 7.1 A restricted PPL (A) will be issued restricting the privileges to carry out cross-country flights if the holder has not flown at least 5 hours solo on cross-country flights. This cross country flying must include a flight of not less than 150 nm during which the applicant has made two intermediate stops, one of which must have been at least 50 nm from the aerodrome of departure within a single day. This flight must be completed within the 6 months preceding the date of licence application. The minimum requirement of 4 hours instruction in pilot navigation will not be applicable for the issue of a restricted PPL (A).

8 PPL (A) FLIGHT TEST

- 8.1 An applicant for a PPL (A) is required to pass a flight test conducted by DCA.
- 8.2 The flight test will normally consist of one flight of approximately one hour, during which the candidate will be assessed on all items as detailed in Appendix A. Essentially the applicant must be able to demonstrate his ability to perform as pilot-in-command of an aeroplane the procedures and manoeuvres as described in paragraph 13.2 of this chapter with a degree of competency appropriate to the privileges granted to the holder of a PPL (A) and to :
- (a) operate the aeroplane within its limitations;
 - (b) complete all manoeuvres with smoothness and accuracy;
 - (c) exercise good judgment and airmanship;
 - (d) apply aeronautical knowledge; and
 - (e) maintain control of the aeroplane at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt.
- 8.3 A candidate who fails in any part of the flight test may be required to undertake further flying training before being accepted for re-test. All parts of the flight test must be completed within a 21 days period.
- 8.4 The validity period of a PPL (A) flight test is 12 months.
- 8.5 An applicant who fails a PPL (A) flight test on more than 3 consecutive attempts will be subjected to a special review by DCA for any further application for flight test.

9 GROUND EXAMINATIONS

9.1 Ground examinations are conducted by the DCA, especially for candidates not attended the whole course of integrated training course. If requested by an AFTO, it shall conduct the PPL examination by the approval of DCA. An applicant for a PPL (A) is required to obtain a pass in each of the following subjects:

- (a) Air Law
- (b) Aircraft General
- (c) Human Performance & Limitations
- (d) Navigation
- (e) Meteorology
- (f) Mass & Balance, Flight Performance & Planning
- (g) Operational Procedures
- (h) Principle of Flight
- (i) Radiotelephony
- (j) Type Tech (Single Engine)

9.2 The pass mark in each examination is 70% with a penalty-marking scheme, except for HPL and VFR communication which are 75%.

9.3 All examination papers above must be successfully completed within a period of 6 months from the date of sitting the first examination paper. In addition, the Radiotelephony Theory and Practical examinations must be successfully completed before one months from the commencing date of flying training.

9.4 The ground examination syllabus is given in Appendix B.

9.5 The holder of a Myanmar PPL (H) will be exempt from all examinations except Principle of flight (A) (if the applicant has not sat this examination before) and Aircraft Rating .

Note: (i) A candidate who does not pass any subject at the first attempt may be referred for a re-examination in that subject and the examination must be passed in next 3 attempts. Failing to do so, the candidate will be barred for that subject for a period of 6 months from the date of sitting the last examination.

(ii) An applicant who fails any PPL (A) subject more than 6 times will be subject to a special review by DCA for any further application of examinations.

10 HOLDERS OF A FOREIGN PRIVATE PILOT LICENCE (AEROPLANES)

10.1 Conversion of foreign PPL (A)

10.1.1 A Myanmar PPL (A) may be issued on the basis of a foreign pilot licence subject to the applicant meeting the following requirements:

- (a) pass the Aviation Law.
- (b) pass a PPL (A) Skill Test.
- (c) meet the Class 2 Medical Requirements for PPL (A) with IR or Class 2 Medical Requirements for a PPL (A).

10.1.2 All the above examinations must be completed within 6 months from the date of approval from DCA or the expiry date of the foreign licence/medical whichever is earlier.

10.1.3 The pilot's foreign licence and its associated ratings must be valid from the time of application to the

time of issue of a Myanmar licence and its associated ratings.

- Note:**
- (i) A candidate who does not pass any subject at the first attempt may be referred for a re-examination in that subject and the examination must be passed within 6 weeks in 3 attempts. Failing to do so, the candidate will be barred for that subject for a period of 3 months from the date of sitting the last examination.
 - (ii) An applicant who fails any PPL (A) subject more than 6 times will be subject to a special review by DCA for any further application of examinations.

10.2 Certificate of Validation

- 10.2.1 When a holder of a non-Myanmar Pilot Licence wishes to fly on a Myanmar registered aircraft in a private capacity in Myanmar, he/she will be required to apply for a Certificate of Validation for his foreign licence. The Certificate of Validation, if approved, will be issued for this purpose only and for a limited period of 6 months. The Certificate of Validation is not renewable. However, a new Certificate of Validation may be issued again after an interval of 6 months period from the date of issue of the previous Certificate of Validation.
- 10.2.2 Before exercising the privileges of a Certificate of Validation issued by DCA, the foreign PPL (A) holder will be required to:
- (a) demonstrate to an AFI or FI an acceptable knowledge of Myanmar's Aviation Law, Flight Rules and Procedures.
 - (b) have a flight with an AFI or FI demonstrating an acceptable standard of flying on local procedures and airspace constraints.
- 10.2.3 Exercising these privileges are subject to the holder having the appropriate valid medical certificate from the state of licence issue, and meeting all necessary flight recency or competency requirements of that licence.
- 10.2.4 DCA may in a particular case require the holder of a foreign licence to meet additional requirements.

11 ADDITION OF A MULTI-ENGINE RATING

- 11.1 The holder of a PPL (A) who wishes to add a Group B aircraft rating to his existing Group A aircraft rating must complete an approved training course recognized by the DCA and pass a flight test and the Aircraft (Type) examination of a Group B aircraft.
- 11.2 The course of flying training must be completed within 12 months of the date of application and must take place on flights made for the sole purpose of Group B training and must include at least:
- (a) 2.5 hours of dual flight instruction under the supervision of an AFI or FI under conditions of normal flight.
 - (b) 3.5 hours in engine failure procedures and asymmetric flying techniques.
 - (c) 1 hour instrument flying.
- 11.3 For a Group B rating restricted to centre-line thrust aircraft only, the 3.5 hours in paragraph 11.2 (b) may be reduced to 2.5 hours.
- 11.4 A licence holder with an aircraft rating in Group B restricted to centre-line thrust aircraft only, who wishes to convert to an unrestricted Group B rating will be required to carry out 3.5 hours dual flight instructions under the supervision of a AFI or FI in asymmetric flight on an aircraft with the engines mounted symmetrically either side of the lateral axis.
- 11.5 In all cases, the licence holder will be required to pass an Aircraft (Type) examination and a flight test on a representative type within the Group for which the aircraft rating is required.

12 APPLICATIONS

- 12.1 An application for the issue of a PPL (A) should be forwarded to DCA and include the following documents:
- (a) Personal flying log book
 - (b) Application Form for PPL
 - (c) Two recent full faced photographs of size 1 in x 1 in
 - (d) Proof of identity documents
 - (e) Qualifying cross-country certification (if applicable)
 - (f) Prescribed fees

13 RECORDS OF TRAINING

- 13.1 The records of flying training should be kept by every Flying Training Organization (FTO) or flying club involved in a student's training. Irrespective of how many FTOs have been involved in a PPL (A) applicant's training, the person certifying the completion of training of the applicant on the application form is responsible for verifying that all the required training has been satisfactorily completed.
- 13.2 The records shall indicate the applicant has operational experience in the following areas to the level of performance required of a private pilot:
- (a) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;
 - (b) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
 - (c) control of the aeroplane by external visual reference;
 - (d) flight at critically slow airspeeds; recognition of, and recovery from, incipient and full stalls;
 - (e) flight at critically high airspeeds;
 - (f) normal and cross-wind take-offs and landings;
 - (g) maximum performance (short field and obstacle clearance) take -offs and landings;
 - (h) flight by reference solely to instruments, including the completion of a level 180 degrees turn;
 - (i) cross-country flying using visual reference, dead-reckoning and, where available, radio navigation aids (in the case of an unrestricted PPL(A));
 - (j) emergency operations, including simulated aeroplane equipment malfunctions; and
 - (k) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.
- 13.3 The DCA may inspect a student's training records before issuing a licence or rating. FTOs are required to keep all training records for at least two years following completion of training.
- 13.4 On completion of any course of training, the student's logbook should be certified by the FTO or flying club on the training completed.

CHAPTER 3

PRIVATE PILOT LICENCE (HELICOPTERS)

1 AGE

- 1.1 The applicant must not be less than 17 years of age as specified in the MCAR Part 2 - Flight Crew Licensing.

2 MEDICAL REQUIREMENTS

- 2.1 An applicant for a Private Pilot Licence (Helicopters) [PPL (H)] must meet the Class 2 Medical Requirements as specified in the MCAR Part 2 - Flight Crew Licensing.
- 2.2 An applicant for a PPL (H) with Instrument Rating (IR) must meet the Class 1 Medical Requirements as specified in the MCAR Part 2 - Flight Crew Licensing.
- 2.3 The validity period of a PPL(H) is based on the medical certificate validity period. The period of medical validity is 60 months for the holder of a PPL(H) below 40 years of age. In the case of a PPL(H) holder who is 40 years of age or more but less than 50 on the date of his medical examination, his PPL(H) will be valid for 24 months. The period of medical validity is 12 months for the holder of a PPL(H) who is 50 years of age or more.

3 LICENCE PRIVILEGES

- 3.1 The privileges of the Myanmar PPL (H) are set out in MCAR Part 2 - Flight Crew Licensing. The holder of the licence may fly as pilot-in-command (PIC) or co-pilot of any of the types specified in the Aircraft Rating of the licence. This is provided the licence contains a valid Medical Certificate and a valid Certificate of Test (C of T) or Certificate of Experience (C of E) endorsed in the licence.
- 3.2 The holder shall not fly a helicopter for the purposes of public transport and aerial work or receive any remuneration as a pilot.
- 3.3 The licence privileges may be extended to include:
- (a) Instrument Rating; and
 - (b) Night Rating.

4 AIRCRAFT RATING

- 4.1 The Aircraft Rating as specified in the MCAR PART 2 - Flight Crew Licensing enables the licence holder to act as PIC of the types of helicopters contained in the Aircraft Rating page of the licence.
- Note:** A class rating is established for helicopters certificated for single -pilot operations which have comparable handling, performance and other characteristics.

5 VALIDITY OF AIRCRAFT RATING

- 5.1 The validity of an aircraft rating is maintained by the inclusion in the pilot's licence a valid C of T or C of E. The validity period of a C of T or C of E is 12 months.
- 5.2 The minimum flying experience required to maintain an Aircraft Rating is 6 hours as pilot of helicopter within the 12 months preceding the date of issue of a new C of E or C of T. All flying must be completed within the validity period of an existing C of E or C of T.
- 5.3 Of the 6 hours minimum experience required, a minimum of 2 hours must be of dual flying instruction under a flying instructor. Upon completion of the dual flight(s), the instructor must certify that the pilot is fit to fly as PIC and so certifies in the logbook.
- 5.4 Flying experience towards the endorsement of C of E must be gained on a Myanmar registered aircraft. In the case of MAF pilots, flying experience gained in a military aircraft may be accepted for the renewal

of a C of E. This is provided that the minimum 2 hours of dual flying instruction is conducted in a civilian aircraft.

5.5 Pilots with more than one type of helicopter endorsed on their licence wishing to maintain the validity of each Aircraft Rating must include at least 1 flight as PIC on each type in the Aircraft rating of the licence as part of or in addition to the overall minimum 6 hours.

5.6 To revalidate the privileges of a lapsed Aircraft Rating:

(a) An applicant whose most recent C of T or C of E has expired by less than 5 years will be required to pass an Aircraft Rating Flight Test. In addition, the applicant will also be required to pass the Human Performance and Limitations examination if he has not sat for this examination before.

(b) An applicant whose most recent C of T or C of E has expired by more than 5 years but less than 10 years will be required to:

(i) pass the Aviation Law, Flight Rules and Procedures and Aircraft Rating examinations for issue of the licence.

(ii) pass an Aircraft Rating Flight Test conducted by DCA; and

(iii) pass the Human Performance and Limitations examination (if he has not sat for this examination before).

(c) An applicant whose most recent C of T or C of E has expired by more than 10 years will be required to:

(i) pass all the ground examinations; and

(ii) pass an Aircraft Rating Flight Test conducted by DCA

6 FLYING EXPERIENCE FOR INITIAL GRANT OF PPL (H)

6.1 An applicant for a PPL (H) flight test shall produce satisfactory evidence of having completed a total of at least 40 hours of flight time, or 35 hours if satisfactorily completed all ground examinations and an approved training course of flying to a syllabus approved by DCA. The total of 40 hours or 35 hours must include at least:

(a) 10 hours of solo flight time under the supervision of a helicopter Assistant Flying Instructor (AFI) or Qualified Flying Instructor (FI) including at least 5 hours of solo cross-country flight time.

(b) 20 hours of dual flight time under the supervision of a helicopter AFI or FI.

Note: "Approved Training" means training carried out under special curricular and supervision approved by DCA.

6.2 The 40 hours requirement may be reduced to 35 hours if the applicant is a holder of a current pilot's licence on aeroplanes.

6.3 A credit time of 5 hours in an approved synthetic flight trainer may be accepted towards the total flight time of 40 hours.

7 RESTRICTED PPL (H)

7.1 A restricted PPL (H) will be issued restricting the privileges to carry out cross-country flights if the holder have not flown at least 5 hours solo on cross-country flights. This cross country flying must include a flight totaling not less than 100 nm in the course of which landing at two different points shall be made within a single day. This flight must be completed within the 6 months preceding the date of licence application.

8 PPL (H) FLIGHT TEST

- 8.1 An applicant for a PPL (H) is required to pass a flight test conducted by a DCA.
- 8.2 The flight test will normally consist of one flight of approximately one hour, during which the candidate will be assessed on all items as detailed in Appendix C. Essentially the applicant must be able to demonstrate his ability to perform as pilot-in-command of a helicopter, the procedures and manoeuvres described in paragraph 12.2 of this chapter with a degree of competency appropriate to the privileges granted to the holder of a PPL (H) and to:
- (a) operate the helicopter within its limitations;
 - (b) complete all manoeuvres with smoothness and accuracy;
 - (c) exercise good judgment and airmanship;
 - (d) apply aeronautical knowledge; and
 - (e) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or maneuver is never in doubt.
- 8.3 A candidate who fails in any part of the flight test may be required to undertake further flying training before being accepted for re-test. All parts of the flight test must be completed within a 21 days period.
- 8.4 The validity period for a PPL (H) flight test is 12 months.
- 8.5 An applicant, who fails a PPL (H) flight test on more than 3 consecutive attempts, will be subjected to a special review by DCA for any further application for flight test.

9 GROUND EXAMINATIONS

- 9.1 Ground examinations are conducted by the DCA. An applicant for a PPL (H) is required to obtain a pass in each of the following subjects:
- (a) Air Law
 - (b) Aircraft General
 - (c) Human Performance & Limitations
 - (d) Navigation
 - (e) Meteorology
 - (f) Mass & Balance, Flight Performance & Planning(Helicopter)
 - (g) Operational Procedures
 - (h) Principle of Flight(Helicopter)
 - (i) Radiotelephony
 - (j) Type Tech (Single Engine Helicopter)
- 9.2 The pass mark in each examination is 70% with a penalty-marking scheme, except for HPL and VFR communication which are 75%.
- 9.3 All examination papers above must be successfully completed within a period of 6 months from the date of sitting the first examination paper. In addition, the Radiotelephony Theory and Practical examinations must be successfully completed before one months from the commencing date of flying training.
- 9.4 The ground examination syllabus is given in Appendix D.

- Note:** (i) A candidate who does not pass any subject at the first attempt may be referred for a re-examination in that subject and the examination must be passed within 3 attempts. Failing to do so, the candidate will be barred for that subject for a period of 6 months from the date of sitting the last examination.
- (ii) An applicant who fails any PPL (H) subject more than 6 times will be subject to a special review by DCA for any further application of examinations.

10 HOLDERS OF A FOREIGN PRIVATE PILOT LICENCE (HELICOPTERS)

10.1 Conversion of foreign PPL (H)

10.1.1 A MYANMAR PPL (H) may be issued on the basis of a foreign pilot licence subject to the applicant meeting the following requirement:

- (a) pass the Aviation Law.
- (b) obtain at least 5 hours as PIC on the helicopter type to be endorsed in the licence.
- (c) pass the PPL (H) Skill test .
- (d) meet the Class 2 Medical Requirements for PPL (H) with IR or a Class Medical Requirement for a PPL (H).

10.1.2 All the above examinations must be completed 6 months from the date of approval from DCA or the expiry date of the foreign licence/medical certificate, whichever is earlier.

10.1.3 The pilot's foreign licence and its associated ratings must be valid from the time of application to the time of issue of a Myanmar licence and its associated ratings.

- Note:** (i) A candidate who does not pass any subject at the first attempt may be referred for a re-examination in that subject and the examination must be passed within 6 weeks in 3 attempts. Failing to do so, the candidate will be barred for that subject for a period of 3 months from the date of sitting the last examination.
- (ii) An applicant who fails any PPL (H) subject more than 6 times will be subject to a specialreview by DCA for any further application of examinations.

10.2 Certificate of Validation

10.2.1 When a holder of a non-Myanmar Pilot Licence wishes to fly on a Myanmar registered aircraft in a private capacity in Myanmar, he will be required to apply for a Certificate of Validation for his foreign licence. The Certificate of Validation, if approved, will be issued for this purpose only and for a limited period of 6 months. The Certificate of Validation is not renewable. However, a new Certificate of Validation may be issued again after an interval of 6 months period from the date of issue of the previous Certificate of Validation.

10.2.2 Before exercising the privileges of a Certificate of Validation issued by DCA, the foreign PPL (H) holder will be required to:

- (a) demonstrate to an AFI or FI an acceptable knowledge of Myanmar's Aviation Law, Flight Rules and Procedures; and
- (b) have a flight with an AFI or FI and demonstrate an acceptable standard of flying on local procedures and airspace constraints.

10.2.3 Exercising these privileges is subject to the holder having the appropriate valid medical certificate from the state of licence issue, and meeting all necessary flight recency or competency requirements of that licence.

10.2.4 DCA may in a particular case require the holder of a foreign licence to meet additional requirements.

11 INCLUSION OF ADDITIONAL TYPES

11.1 A PPL (H) holder who wishes to have an additional helicopter type included in his licence is required to:

- (a) have at least 5 hours as pilot on the helicopter type
- (b) pass the Aircraft Type examination
- (c) pass a flight test conducted by DCA

12 APPLICATIONS

- 12.1 An application for the issue of a Myanmar PPL (H) should be forwarded to DCA and include the following documents:
- (a) Personal flying log book
 - (b) Application Form for PPL
 - (c) Four recent full faced photographs of size 1in x 1in
 - (d) Proof of identity documents
 - (e) Qualifying cross-country certification (if applicable)
 - (f) Prescribed fees

13 RECORDS OF TRAINING

- 13.1 The records of flying training should be kept by every Flying Training Organization (FTO) or flying club involved in a student's training. Irrespective of how many FTO have been involved in a PPL (H) applicant's training, the person certifying the completion of training of the applicant on the application form is responsible for verifying that all the required training has been satisfactorily completed.
- 13.2 The records shall indicate the applicant has operational experience in the following areas to the level of performance required of a private pilot (helicopter):
- (a) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;
 - (b) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
 - (c) control of the helicopter by external visual reference;
 - (d) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;
 - (e) ground manoeuvring and run-ups; hovering; take-offs and landings – normal, out of wind and sloping ground;
 - (f) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;
 - (g) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour (in the case of an unrestricted PPL (H));
 - (h) emergency operations, including simulated helicopter equipment malfunctions; autorotation approach and landing; and
 - (i) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.
 - (j) Flight by reference solely to instruments, including the completion of a level 180 degrees turn.
- 13.3 The DCA may inspect a student's training record before issuing a licence or rating. FTOs are required to keep all training records for at least two years following completion of training.
- 13.4 On completion of any course of training, the student's logbook should be certified by the FTO or flying club on the training completed.

CHAPTER 4

THE INSTRUMENT RATING (AEROPLANES)

1 THE INSTRUMENT RATING PRIVILEGES

- 1.1 The privileges of an Instrument Rating (IR) as specified in the MCAR Part 2 - Flight Crew Licensing allows the holder to act in an aeroplane:
- (a) on any flight as pilot-in-command (PIC) or as co-pilot in controlled airspace or conditions such that the pilot cannot comply with the specified weather provisions;
 - (b) in circumstances which require compliance with Instrument Flight Rules; and
 - (c) as pilot-in-command (PIC) on a scheduled journey.
- 1.2 A PPL (A) may be issued without an Instrument Rating but its privileges will not include the privileges mentioned above in paragraph 1.
- 1.3 The flight test for the Instrument Rating (Aeroplanes) is normally conducted in a multi-engine aeroplane to exercise the privileges of an IR in a single-engine, multi-engine and multi-crew aeroplane.
- 1.4 If the test is conducted in:
- (a) a single-engine aeroplane the rating will be endorsed accordingly and its privileges may be exercised only in single-engine aeroplanes;
 - (b) a multi-crew aeroplane the rating will be endorsed accordingly and its privileges may be exercised only in aeroplanes certificated for two pilots. Grant of such a restricted rating will be considered, after evaluation, for MAF pilots who hold a current Instrument Rating, or to holders of a current ATPL (A) and Instrument Rating issued by another ICAO Contracting State. The test will normally be conducted only in aeroplanes requiring two pilots when flying for the purpose of public transport in compliance with the Instrument Flight Rules.

2 APPROVED TRAINING

- 2.1 Unless qualifying for exemption as detailed in paragraph 3.1, persons wishing to obtain an Instrument Rating (Aeroplanes) will, be required to complete an approved training course. This will comprise:
- (a) *for an unrestricted rating*, not less than 45 hours dual instruction in instrument flying in single-engine or multi-engine aeroplanes, of which not less than 25 hours must be in multi-engine aeroplanes. The remaining experience, up to a maximum of 20 hours, may be gained in an approved flight simulator or an approved procedure trainer;
 - (b) *for a rating with privileges restricted to single -engine aeroplanes*, not less than 40 hours dual instruction in instrument flying. This must include not less than 20 hours in single-engined aeroplanes. The remaining experience, up to a maximum of 20 hours, may be gained in an approved flight simulator or an approved procedure trainer;
 - (c) *for the holder of a rating restricted to single -engine aeroplanes wishing to obtain an unrestricted rating*, not less than five hours dual instruction in instrument flying in multi-engine aeroplanes.
- 2.2 The approved training shall cover the following areas:
- (a) pre-flight procedures, including the use of the flight manual or equivalent document, and appropriate air traffic services in the preparation of an IFR flight plan;
 - (b) pre-flight inspection, use of checklists, taxiing and pre-take-off checks;
 - (c) procedures and manoeuvres for IFR operation under normal, abnormal and emergency conditions covering at least:

- transition to instrument flight on take-off
- standard instrument departures and arrivals
- en-route IFR procedures
- holding procedures
- instrument approaches to specified minima
- missed approach procedures
- landings from instrument approaches

(d) in-flight manoeuvres and particular flight characteristics.

2.3 The experience gained in an approved training course may be counted toward satisfying the experience requirements for the ratings as specified.

Note: 'Approved Training' means training carried out under special curricula and supervision approved by DCA.

3 EXEMPTION FROM APPROVED TRAINING

3.1 Exemption from having to undergo an approved training course will normally be given to the following:

(a) **Holders of a Myanmar Instrument Rating (Helicopters)**

Pilots who hold, or have held within the three years preceding the date of receipt by the DCA of the application for the Instrument Rating (Aeroplanes), a Myanmar Instrument Rating (Helicopters).

(b) **MAF pilots**

Qualified serving pilots in the MAF with a Second Class Rating who meet the experience specified in paragraph 4.2

(c) **Foreign licences holders with a valid Instrument Rating**

Foreign licence holders with a valid Instrument Rating on aeroplanes endorsed in their licences.

4 FLYING EXPERIENCE REQUIREMENTS

4.1 The normal method of recording flight time and the way in which it will be credited toward meeting the flying experience requirements is in Appendix E.

4.2 The minimum flying experience required for grant of an Instrument Rating (Aeroplanes) is 200 hours as pilot of aeroplanes, which must include:

- (a) not less than 100 hours as PIC, of which not less than 50 hours must be cross-country flying.
- (b) not less than 40 hours as pilot by sole reference to instruments, of which up to 20 hours may be in an approved flight simulator or approved procedure trainer.

4.3 Where a pilot holds, or has held within the three years preceding the date of receipt by the DCA of the application for the Instrument Rating (Aeroplanes), a Instrument Rating (Helicopters), the minimum experience required in aeroplanes is:

- (a) 50 hours as PIC, of which not less than 20 hours must be cross-country flying.
- (b) 20 hours as pilot by sole reference to instruments. Up to 10 hours of this may be in an approved simulator.

4.4 Flight time in micro-light aeroplanes, will not be counted toward satisfying any of the requirements specified in paragraphs 4.2 and 4.3 above. Flight time in self-launching motor gliders will not be counted toward satisfying the minimum PIC or pilot by sole reference to instruments requirements and may only be counted toward satisfying the total experience requirements specified in paragraph 4.2 when the aircraft is under power.

5 GROUND EXAMINATION REQUIREMENTS

- 5.1 An applicant for a PPL (A) with IR is required to have passed the navigation group of papers at the CPL or ATPL level. Persons who have passed the ground examinations for grant of a professional pilot licence, or who have been exempted from having to take them, will not normally be required to take any ground examinations for grant of an Instrument Rating.

6 THE FULL INSTRUMENT RATING FLIGHT TEST – INITIAL ISSUE OF INSTRUMENT RATING

- 6.1 All applicants for the grant of an Instrument Rating (Aeroplanes) will be required to pass an Instrument Rating Flight Test. The test for an unrestricted rating will be conducted in a multi-engine aeroplane having a Myanmar Certificate of Airworthiness, which permits it to be flown by a single flight crew member. The syllabus for the test comprises:

Section 1 : Departure procedures

Section 2 : Airways procedures

Section 3 : ILS instrument approach procedures

Section 4 : NDB or VOR instrument approach procedures

Note: At the conclusion of Section 3, the applicant will be asked to carry out a missed approach from decision height in the course of which and at a safe height an engine failure will be simulated. Section 4 will be conducted on asymmetric power and will terminate at minimum descent height after the applicant has levelled the aircraft and has given the Flight Examiner an estimate of the time or distance to run to the aerodrome boundary, runway threshold or the facility, as appropriate.

Sub-section A: Preliminary and external checks

Sub-section B: Holding procedures

Sub-section C: Engine failure procedures

Sub-section D: Limited Panel

- 6.2 The full syllabus for the test, the conditions and assumptions upon which it will be conducted and the level of acceptable performance are spelt out in Appendix F.
- 6.3 The test syllabus for a rating restricted to multi-crew aeroplanes is the same as that for an unrestricted rating, but there may be minor variations in the conduct of the test. The Flight Examiner will explain this before the test begins.
- 6.4 The test syllabus for a rating restricted to single -engine aeroplanes is the same as that given in paragraph 6.1, less Sub-section C (simulation of engine failure as referred to in the Note).
- 6.5 In the test for an unrestricted or single -engine rating, the applicant will be required to fly the aeroplane from the PIC position and to carry out the test as if he were the sole flight crew member. The Flight Examiner will, however, be the designated PIC.
- 6.6 In the test for a multi-crew rating, the applicant may take the test as handling pilot in either the PIC or in the co-pilot position and will be expected to call upon the other flight crew members to assist him in the conduct of the flight in accordance with the normal crew drills for that type of aeroplane. The Flight Examiner will occupy the PIC or co-pilot position and will be designated as PIC of the aeroplane. When the Flight Examiner does not occupy either of these positions, the pilot occupying either one who is not undergoing the test will be designated as PIC and must be a person authorized by the operator of the aeroplane to act as a training or check captain on the type.
- 6.7 The applicant, together with the remainder of the flight crew in the case of a test on a multi-crew aeroplane, will be briefed by the Flight Examiner before the test. The applicant will be responsible for ensuring that he has all equipment and documentation necessary for the planning and execution of the flight.

- 6.8 The Flight Examiner will choose the route for the test flight. It may start and finish at the same aerodrome or may end at another aerodrome. The applicant may not decline to fly the nominated route solely because he is not familiar with it. He should be prepared to be examined along any route terminating at a suitably equipped aerodrome within 150nm of departure.

7 INSTRUMENT RATING FLIGHT TEST: PASS CONDITIONS

- 7.1 Before an applicant attempts the Instrument Rating flight test he must obtain a form, signed by a person authorized to sign such forms, certifying that he has satisfactorily completed any training which may have been required of him and that in the judgment of the person signing the form, he is ready to take the test. This requirement will apply regardless if the applicant has had to undergo an approved training course. The form is valid for a period of six months from the date of signature and the first attempt to pass the test must be taken within this period of validity. If a partial pass is obtained during this period, then the form may be extended to allow the candidate to complete satisfactorily all the outstanding items within a period of 21 days from the date of first obtaining a partial pass. If the candidate fails to pass the test during this extended validity period, the form is cancelled.
- 7.2 All four sections and three sub-sections (two sub-sections in the case of a test in a single -engine aeroplane) of the test must be taken at the first attempt. The applicant will be required to demonstrate the ability to perform the procedures and manoeuvres described in paragraph 2.2 with a degree of competency appropriate to the privileges granted to the holder of an Instrument Rating (aeroplanes) and to:
- (a) operate the aeroplane within its limitations;
 - (b) complete all manoeuvres with smoothness and accuracy;
 - (c) exercise good judgement and airmanship;
 - (d) apply aeronautical knowledge; and
 - (e) maintain control of the aeroplane at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt.
- 7.3 An applicant is required to demonstrate that he can satisfactorily complete in one flight any three of the four sections. He will be required to take the section that he has failed in his next attempt with the other failed items.
- 7.4 During a re-test, candidates will be re-tested in Section 1 (Departure Procedures). In addition, if the applicant is required for operational reasons to take up a hold, he will be re-assessed on sub-section B during the re-test.
- 7.5 Under the provisions of paragraphs 7.1 and 7.2, if an applicant has to take parts of the test again, he must satisfactorily complete all the outstanding items within a period of 21 days from the date of first test when obtaining the partial pass. If this is not achieved, the applicant will be required to take the whole flight test again.
- 7.6 If a candidate fails to achieve a valid pass in all sections and required sub-sections of the test within three attempts, he is required to meet the following prior to his first attempt in his second series of tests:
- (a) complete in the six months preceding the date of receipt by the DCA of the application for the first test in the second series such further training as the DCA may prescribe;
 - (b) obtained a form signed by a person authorized to sign such forms certifying that the prescribed training has been satisfactorily completed and that the applicant is ready to take the test.
- 7.7 The first attempt in the second series will cover the whole test and the series will be subject to the same pass conditions as the first series. If, within three attempts at the test in the second series, the

applicant has still not obtained a valid pass in all sections and required sub-sections of the test, he will, before he may start the third series of attempts, be required to:

- (a) show that he has not less than 500 hours experience as pilot-in-command of aeroplanes;
- (b) complete in the six months preceding the date of receipt by the DCA of the application for the first test in the third series, an approved training course as specified in paragraph 2.1(a) or 2.1(b) as appropriate.
- (c) obtain a form signed by a person authorized to sign such forms, certifying that he has satisfactorily completed the required training and is ready to take the test.

7.8 The first two attempts at the test in the third series will be conducted subject to the same pass conditions as in the earlier series. However, if a third attempt is required, (regardless if it is 21 days of the applicant having gained a partial pass) the applicant will have to take the whole test again.

7.9 If, at the conclusion of the third attempt in the third series, the applicant is still unable to obtain a valid pass in all sections and required sub-sections of the test, he will be considered unsuitable to hold an Instrument Rating and will not normally be permitted to make any further attempts at the Instrument Rating Test. The DCA will, however, be prepared, at his written request, to review the circumstances and results of all the tests he has taken to determine whether any further attempt may be permitted. Any such further attempt, if allowed, would be subject to such conditions as the DCA deemed fit.

8 TERMINATION OF A TEST BY THE APPLICANT

8.1 Once a test has started, should the applicant choose not to continue with it for reasons not considered acceptable by the Flight Examiner, he will be regarded as having failed those items not attempted in the test. Failure of the test on this ground will be counted as an attempt.

9 TERMINATION OF A TEST BY THE EXAMINER

9.1 The Flight Examiner may stop the test at any stage if he considers that the applicant's standard of flying warrants a re-test.

10 FLIGHT TEST ARRANGEMENTS

10.1 Where an applicant for an Instrument Rating has undergone an approved training course, arrangements for the flight test, including the provision of a suitable aircraft, will normally be made by the Flying Training Organization (FTO) which conducted the training.

10.2 Applicants who have been exempted from having to undergo an approved training course will be required to make their own arrangements for the test with the DCA. They must also make their own arrangements to provide an aircraft for the test. Such aircraft must be maintained and equipped to DCA requirements for the conduct of the test, including the method of ensuring that it can be flown by sole reference to instruments.

11 THE INSTRUMENT RATING RENEWAL - CERTIFICATE OF TEST

11.1 The privileges of an Instrument Rating may not be exercised unless the licence contains a valid Certificate of Test (C of T). The period of validity of a C of T in relation to an Instrument Rating is 13 months from the date of the completion of the test.

11.2 For the grant of an Instrument Rating, the C of T will be endorsed by the DCA with a date effective from the date on which the Instrument Rating Flight Test was successfully completed.

11.3 Before the certificate can be renewed again the licence holder must pass a further test conducted by a Flight Examiner in an aeroplane or in an approved flight simulator. Access to such simulators can normally only be obtained through the operator who holds the simulator approval.

- 11.4 Any suitable means of simulating instrument flight conditions in an aeroplane may be used.
- 11.5 The test will comprise, Section 1(Departure Procedures) Section 2 (Airways Procedures) and a modified Section 3 (ILS Instrument Approach Procedure consisting of an approach to land, go-around and missed approach procedure), Sub-section A (Preliminary and External Checks), and Sub-section B (Holding Procedures). Simulated failure of an engine and flight on asymmetric power will not be tested in Section 3.
- 11.6 A failure of more than one section of Sections 1, 2 and 3 will require the whole of the test to be taken again. If only one of these sections is failed, the Flight Examiner, at his discretion, may ask the applicant to repeat the failed procedure during the course of the test. Should a further flight test be necessary only the failed section need be taken again except that where a re-test of Section 3 is required it will start from the holding pattern and the candidate will be re-assessed on Sub-section B as well as Section 3. If, in the course of any other re-test, the applicant is required for operational reasons to take up a hold, he will be re-assessed on Sub-section B. In a retest of Sub-section B, Section 1 will also be re-tested. If in the course of a re-test a section or sub-section which has previously been passed is performed unsatisfactorily a re-test in that section or sub-section will be required.
- 11.7 The whole of the test must be satisfactorily completed within 21 days from the initial attempt, or all passes gained will become invalid and the whole of the test must be taken again in one attempt, in accordance with the pass conditions as stated before.
- 11.8 On successful completion of the test, the C of T will be signed by the Flight Examiner who conducted it, with a date effective on the day the test was successfully completed.

12 EXPIRY OF CERTIFICATE OF TEST (C of T)

- 12.1 When an Instrument Rating has lapsed within 12 months, a C of T may be revalidated in accordance with the renewal Instrument Rating flight test requirement.
- 12.2 If a period of more than 12 months has elapsed since the expiry of the C of T, the licence holder will be required, before the C of T can be revalidated, to pass a full Instrument Rating Flight Test. On successful completion of the test, the C of T will be issued by the DCA effective from the date on which the test was completed. If a licence holder has remained in instrument flying practice on a foreign licence with Instrument Rating or in active flying with the MAF, this requirement may be waived. Advice should be sought from the DCA.

13 TEST FOR REMOVAL OF THE MULTI-CREW OR SINGLE-ENGINE AEROPLANE RESTRICTION

- 13.1 The holder of an Instrument Rating valid for a multi-crew aeroplane or for single -engine aeroplane may have the restriction lifted by passing a flight test conducted by a Flight Examiner in an aeroplane of the type specified in paragraph 6 with the applicant acting as sole flight crew member. The arrangements to be observed for the test are as described in paragraph 6.
- 13.2 For lifting of the multi-crew restriction the test will be conducted to the same syllabus and subject to the same pass conditions as that for an unrestricted rating. When the applicant passes the test, the DCA will lift the restriction on the rating and issue the C of T effective from the date on which the test was completed.
- 13.3 Before the test can be taken for removal of the single-engine aeroplane restriction, the applicant will, unless he is exempt under the terms of paragraph 3 be required to complete an approved training course as specified in paragraph 2.1(c).
- 13.4 The test for removal of the single-engine restriction will be that described in paragraph 6.1 except

- Section 2 and Sub-section B, where if a holding procedure is required, the applicant will be assessed on it.
- 13.5 Successful completion of the test will allow lifting by the DCA of the single -engine restriction from the rating, but will not allow the C of T to be revalidated. For this to be done, the applicant will also be required to pass Section 2, Airways procedures, and Sub-section B, Holding procedures. Applicants wishing to have these items included in the test should request it at the time of making the arrangement for the test.
- 13.6 A failure of more than one Section of Sections 1, 2 and 3 will require the whole test to be taken again. If only one of these Sections is failed, the Flight Examiner may require the applicant to repeat the failed section during the course of the test. Should another flight test be required, only the failed section need be taken again, except for Section 3 when the retest will start from the holding pattern and the candidate will be re-assessed on Sub-section B as well as on Section 3. If, in the course of any other re-test, the applicant is required for operational reasons to take up a hold he will also be re-assessed on Sub-section B. In a test of Sub-section B, Section 1 will also be retested. If in the course of a retest a section or sub-section which has previously been passed is performed unsatisfactorily a retest in that section or sub-section may be required.
- 13.7 The whole of the test must be satisfactorily completed within 21 days from the initial attempt, or all previous passes will become invalid and the whole of the test must be taken again in one attempt, the pass conditions applying as before.

CHAPTER 5

THE INSTRUMENT RATING (HELICOPTERS)

1 THE INSTRUMENT RATING PRIVILEGES

- 1.1 The privileges of the Instrument Rating (Helicopters) as specified in the MCAR Part-2 Flight Crew Licensing allow the holder to act in a helicopter:
- (a) on any flight as pilot-in-command (PIC) or as co-pilot in controlled airspace; or conditions such that the pilot cannot comply with the specified weather provisions;
 - (b) in circumstances which require compliance with Instrument Flight Rules; and
 - (c) as pilot-in-command (PIC) at night when passengers are carried where the specific recent night flying is satisfied.
- 1.2 This rating will be granted only in respect of helicopters having a MYANMAR Certificate of Airworthiness which permits unrestricted flight in Instrument Meteorological Conditions and will be granted in respect only of those helicopters upon which the licence holder has passed an Instrument Rating flight test and the navigation group of papers at the CPL or ATPL level.

2 APPROVED TRAINING

- 2.1 Unless qualifying for exemption as detailed in paragraph 3, persons wishing to obtain an Instrument Rating (Helicopters), will before they may take the Instrument Rating Flight Test, be required to complete an approved training course. This will comprise at least:
- (a) 20 hours dual instruction in instrument flying in helicopters not less than five hours of which must be in the type in which the applicant wishes to qualify. The remainder may be in any helicopter having a Myanmar Certificate of Airworthiness, which permits instrument flight training.
 - (b) 20 hours instruction in instrument flying in an approved helicopter flight simulator. up to 10 hours of this training may alternatively be conducted in an approved procedure trainer.
- 2.2 The approved training will cover the following areas:
- (a) pre-flight procedures, including the use of the flight manual or equivalent document, and appropriate air traffic services documents in the preparation of an IFR flight plan;
 - (b) pre-flight inspection, use of checklists, taxiing and pre-take-off checks;
 - (c) procedures and manoeuvres for IFR operation under normal, abnormal and emergency conditions covering at least:
 - transition to instrument flight on take-off
 - standard instrument departures and arrivals
 - en-route IFR procedures
 - holding procedures
 - instrument approaches to specified minima
 - missed approach procedures
 - landings from instrument approaches
 - (d) in-flight manoeuvres and particular flight characteristics; and
 - (e) if appropriate, operation of a multi-engined helicopter solely by reference to instruments with one engine inoperative or simulated inoperative.
- 2.3 The experience gained in an approved training course may be counted toward satisfying the experience requirements for the rating as specified in paragraph 4.
- Note:** 'Approved Training' means training carried out under special curricula and supervision

3 EXEMPTION FROM APPROVED TRAINING

3.1 Exemption from having to undergo an approved training course will normally be given to the following:

(a) **Holders of a Myanmar Instrument Rating (Aeroplanes)**

Pilots who hold, or have held within the three years preceding the date of receipt by the DCA on the application for the Instrument Rating (Helicopters), a Myanmar Instrument Rating (Aeroplanes).

(b) **MAF pilots**

Qualified serving pilots in the MAF who meet the experience requirements specified in paragraph 4.

(c) **Foreign Licence holders with a valid Instrument Rating**

Foreign licence holders with a valid Instrument Rating on aeroplanes endorsed in their licence.

4 FLYING EXPERIENCE REQUIREMENTS

4.1 The minimum flying experience required for grant of an Instrument Rating (Helicopters) to a pilot who does not hold an Instrument Rating (Aeroplanes) is 200 hours as pilot of helicopters, which must include:

(a) Not less than 100 hours as PIC and must include not less than 50 hours cross-country flying.

(b) Not less than 40 hours as pilot by sole reference to instruments. Up to 20 hours of this time may be in an approved helicopter flight simulator or up to 10 hours in an approved procedure trainer;

(c) not less than 5 hours as pilot by sole reference to instruments in the type of helicopter in respect of which the applicant wishes to qualify. These hours must be gained in flight.

4.2 Where a pilot holds, or has held within the three years preceding the date of receipt by the DCA of the application for the Instrument Rating (Helicopters), an Instrument Rating (Aeroplanes), the minimum experience required in helicopter is:

(a) not less than 50 hours as PIC, of which not more than 15 hours may be as PIC U/S, including not less than 20 hours cross-country flying.

(b) not less than 20 hours as pilot by sole reference to instruments, of which not more than 10 hours of this may be in an approved helicopter flight simulator, or up to 5 hours in an approved procedure trainer.

(c) not less than 5 hours as pilot by sole reference to instruments in the type of helicopter in which the applicant wishes to qualify. This time must be gained in flight. It may count toward that required by paragraph 4.2(b) above.

5 GROUND EXAMINATION REQUIREMENTS

5.1 An applicant for a PPL (H) with IR is required to have passed the navigation group of papers at the CPL or ATPL level.

5.2 Persons who have passed the ground examinations for grant of a professional pilot licence, or who have been exempted from having to take them, will not normally be required to take any ground examinations for grant of an Instrument Rating.

6 THE INITIAL INSTRUMENT RATING FLIGHT TEST

6.1 All applicants for the grant of an Instrument Rating (Helicopters) will be required to pass, on the first type of helicopter to which the rating will apply, an Instrument Rating flight test conducted by DCA. Further tests will be required to extend rating privileges of other types of helicopters.

6.2 The test for grant of the rating is conducted subject to the same conditions as that for the Instrument Rating (Aeroplanes); except that where it is conducted in a multi-engine helicopter, an engine failure will

be simulated during the missed approach following Section 3 or Section 4 whichever is flown first at the discretion of the Flight Examiner. The following sections will then be conducted under simulated engine failure conditions. The applicant will be required to demonstrate the ability to perform the procedures and manoeuvres specified in paragraph 2.2 with a degree of competency appropriate to the privileges granted to the holder of an instrument rating (helicopter) and to:

- (a) operate the helicopter within its limitations;
- (b) complete all manoeuvres with smoothness and accuracy;
- (c) exercise good judgement and airmanship;
- (d) apply aeronautical knowledge; and
- (e) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt.

6.3 The complete syllabus of the test, the conditions and assumptions upon which it will be conducted and the level acceptable performances are in Appendix F.

6.4 Where the test is conducted in a helicopter having a Myanmar Certificate of Airworthiness which permits it to be flown by a sole flight crew member, the applicant will be expected to act as sole flight crew member. He will occupy the PIC position but the Flight Examiner will be the designated PIC.

6.5 Where the test is conducted in a helicopter requiring it to be flown by more than one pilot, the applicant may take the test as handling pilot in either the PIC or co-pilot position, and will be expected to call upon the other pilot to assist him in the conduct of the flight in accordance with the normal crew drills for that type of helicopter. Where the Flight Examiner occupies the PIC or co-pilot position, he will be the designated PIC. Where he does not occupy either of these positions, the pilot occupying either one who is not undergoing the test will be designated as PIC and must be a person authorized by the operator of the helicopter to act as a training or check captain on the type.

7 INSTRUMENT RATING FLIGHT TEST: PASS CONDITIONS

7.1 The flight test pass conditions for grant of the Instrument Rating (Helicopters) are the same as those for the Instrument Rating (Aeroplanes). (See Chapter 4 paragraph 7).

7.2 If the applicant has to go for a third series of attempts at the test, he will, before he makes the first attempt in the series, be required to:

- (a) show that he has not less than 500 hours experience as PIC of helicopters;
- (b) complete in the six months preceding the date of receipt by the DCA of the application for the test, an approved training course as specified.
- (c) obtain a form signed by an authorised person certifying that he has satisfactorily completed the required training and is fully ready to take the test again.

8 FLIGHT TEST ARRANGEMENTS

8.1 The flight test arrangements for grant of the Instrument Rating (Helicopters) are the same as those for the Instrument Rating (Aeroplanes). (See Chapter 4 paragraph 10).

9 THE INSTRUMENT RATING CERTIFICATE OF TEST

9.1 The privileges of an Instrument Rating (Helicopters) may only exercise in those types of helicopters in respect of each of which the licence contains a valid Certificate of Test (C of T). The period of validity of a C of T in respect of each type of helicopter is 12 months from the date of effect from the certificate in relation to that type.

9.2 On grant of an Instrument Rating, the C of T will be endorsed by DCA in respect of the type of helicopters on which the test was taken, with a date effective from the date on which the Instrument

Rating flight test was successfully completed. When tests are passed to extend the rating privileges to other types of helicopters, the additional types will be added to the rating by the DCA, who will also endorse the C of T in respect of the aircraft type an effective date on which the extension flight test was successfully completed.

- 9.3 The flight test arrangements in respect of the C of T, the syllabus for the test and the pass conditions are the same as those for the aeroplane rating. A test must be taken in respect of each type of helicopter for which a C of T is required, but the Airways procedures section of the test, Section 2, need only be taken once every 12 months.

10 EXPIRY OF CERTIFICATE OF TEST (C of T)

- 10.1 When an Instrument Rating has lapsed within 12 months, the C of T may be revalidated in accordance with the renewal Instrument Rating flight test requirement.
- 10.2 If a period of more than 12 months has elapsed since the period of validity of the C of T expired, the licence holder will, before the C of T may be revalidated in respect of any type, be required to pass a full Instrument Rating Flight Test for the grant of the rating. On the test being passed, the C of T will be endorsed by the DCA in respect of the type of helicopter on which the test was taken, effective as from the date on which the test was conducted. Where a licence holder has remained in instrument flying practice on a foreign licence with Instrument Rating or a Second Rating in MAF, this requirement may be waived. Advice should be sought from the DCA.

11 FLIGHT TEST TO EXTEND THE RATING PRIVILEGES TO ADDITIONAL TYPES OF HELICOPTERS

- 11.1 To extend the Instrument Rating privileges to additional types of helicopters, the licence holder will be required to pass a further test on each of the types for which the extension is sought.
- 11.2 Before the flight test may be taken, the applicant will be required to have obtained not less than two hours as pilot by sole reference to instruments on the type of helicopter in which the test is to be taken, or in an approved helicopter flight simulator representative of the type.
- 11.3 If a first multi-engine helicopter Instrument Rating is to be included, the test will be as detailed as paragraph 6.2 above less Section 2 and Sub-section B, except that if a holding procedure is operationally necessary, the applicant will be assessed on it. For other cases the test will comprise Section 1 and Section 3 but if a holding procedure is operationally necessary, the applicant will be assessed on it. Every such flight test must be conducted in a helicopter.
- 11.4 On satisfactory completion of the flight test, the additional helicopter type will be added to the rating by the DCA, who will also complete the C of T in respect of that type effective from the date on which the test was successfully completed.

PPL (A) GROUPS A & B TRAINING SYLLABUS FOR THE FLIGHT TEST

- 1 This syllabus lists all the items which should be covered during training for the PPL flight test in either Groups A or B. The candidates will be required to demonstrate a satisfactory standard of knowledge and handling in any of the items listed below.
- 1.1 Preparation for flight:**
 Self briefing
 Weather assessment
 Aeroplane documentation
 Personal equipment check Weight and balance (calculate)
 Weight and performance (calculate)
 Fuel and oil state
 Aeroplane acceptability
 Filing of ATS Flight Plan
 Pre flight inspection
 NOTAM
- 1.2 Starting, taxiing and power checks:**
 Pre start checks
 Post start checks
 Taxiing techniques
 Engine run-up
- 1.3 Take-off:**
 Pre take-off checks (Vital actions).
 Assessment of cross wind component.
 Normal and cross wind take-offs.
 During and post take off checks.
- 1.4 Aerodrome departure procedures.
- 1.5 Climbing.
- 1.6 Straight and level flight.
- 1.7 Descending with power/flap.
- 1.8 Turning :**
 Level
 Climbing
 Descending
 High angles of bank
- 1.9 Stalling:**
 Checks before stalling.
 Flight at $V_{s1} + 5$ kts and at $V_{so} + 5$ kts straight and level, climbing, descending and turning.
 Recognition of incipient stall and recovery.
 Recovery from a developed stall from straight and level, turning and approach configuration.
- 1.10 Flight by sole reference to instruments:**
 Straight and level.
 Climbing and climbing turns.
 Descending and descending turns.
 Turns on to specified headings.
 Recovery to straight and level flight from unusual attitudes.

1.11 Navigation and orientation:

Flight plan, dead reckoning and map reading.
Maintenance of altitude and heading.
Orientation, timing and revisions of ETAs.
Diversion to alternate aerodrome (planning and implementation).
Interpretation of radio navigation aids.
Basic instrument flying check (180 degrees turn in simulated IMC).
Internal checks (fuel management, systems and carburetor icing checks, etc).
Actions after flight.

1.12 Circuit joining procedures.

1.13 Circuit procedures/Approach and Landing:

Pre landing checks (Vital actions)
Assessment of cross-wind component
Normal approach
Flapless approach
Glide approach to spot landing (Group A only)
Short field take-off and landing
Bad weather circuit
Cross wind landing Missed approach procedure
After landing checks

1.14 Simulated emergencies:

Forced landings without power (Group A only):
Checks procedure and judgement
Touch-down at a pre-determined spot Action in the event of fire Engine failure after take-off
Other simulated emergencies

1.15 Engines and systems handling

1.16 Airmanship/awareness:

Look out Positioning (restricted airspace, hazards and weather)
ATC liaison
Aerodrome discipline

1.17 Action after flight

Engine shut down
Parking and securing aeroplane
Recording of flight details

1.18 Flight with asymmetric power (Group B only):

Engine failure and feathering
Air re-start and un-feathering
Alternate gear lowering procedure (if applicable)
Procedure for engine failure in the cruise Normal manoeuvres with one engine inoperative
Compliance with recommended speeds
Determination of critical speeds:
VMCA demonstration
VMCG demonstration
Simulated engine failure after take-off at or above safety speed
Approach and go around with one engine at zero thrust
Approach and landing with one engine at zero thrust

Use of asymmetric committal height (Decision Height)

2 PPL (A) FLIGHT TEST TOLERANCE

2.1 The following limits are for general guidance. The Flight Examiner will make allowance for turbulent conditions and the handling qualities and performance of the aeroplane used.

Height:

normal flight \pm 100 feet

with simulated engine failure \pm 150 feet

Heading / Tracking of radio aids:

normal flight \pm 10°

with simulated engine failure \pm 15°

Speed:

take-off and approach +5/-0 knots

all other flight regimes \pm 10 knots

PPL (A) GROUND EXAMINATION SYLLABUS

PPL AIR LAW 1 AND AIR LAW 2 (5 Hours)

- 1 Rules of the Air Introduction - Collision Avoidance in the Air – Flight in the vicinity of an aerodrome - Right-hand Traffic Rules - Light on Aircraft - Low flying regulations -Reporting hazardous condition - Aerobatics - Simulated Instrument Flight - Practice Instrument Approaches - Misuse of Signals and Markings
- 2 Aerodromes Limitations on the use of Aerodromes – Customs facilities – Aeronautical Light Beacons – Movement of aircraft on aerodromes – Access on Aerodromes – Right-of-way on the Ground –Aerodrome Traffic Zones – Signals & Markings in the signal area – Signals on paved runways and taxiways – Marks on unpaved maneuvering areas– Meaning of Light Signals – Marshalling Signals from Marshaller to Pilot – Signals from Pilot to Marshaller
- 3 Air Traffic Services Air Traffic Control Center (ATCC) Service – Aerodrome Traffic Services – Air Traffic Services in Open Air – Pre-flight Briefing Services – The Flight Plan – Meteorology
- 4 Visual Flight Rules Instrument Flight Rules VMC Minima for Airspace classes – VFR flight plan and ATC clearance – Special VFR – Flights at Night The minimum flight rules – IFR flight – Cruise at quadrant levels – Flight Plans and ATC Clearance
- 5 Distress, Urgency, Safety and Warning Signals Search & Rescue Distress signals – Urgency and Safety Signals – Use of Transformers – Warning Signals Emergency Frequency and Transponder Codes – SAR watch procedures – Search & Rescue Signals

PPL AIRCRAFT GENERAL KNOWLEDGE(10 Hours)

- 1 The Air Frame Aeroplane component – Fuselage – Wing – Tail Assembly – Flight Controls -Control Columns – Flap Controls – Under Carriage – Pre-flight Inspection –Post-Flight Inspection
- 2 Aircraft Engine Piston Engines – Components of the Piston Engines– Basic Principles of Piston Engines – A Stroke Engine Cycle – Diesel Engine – Ignition System –Carburetor and Fuel Injection System – Lubrication and Cooling System – Super Chargers
- 3 Propellers Purpose of Propellers – Blade Terminologies – Fixed Pitch Propellers – Variable Pitch Propellers – Constant Speed Propellers – Feathering and Unfeathering
- 4 Fuel & Fuel System Components – Tanks – Fuel Lines – Fuel Selectors –Fuel Strainer – Fuel Pumps – Fuel Gauges – Priming System – Types of Fuel (Piston) – AVGAS – MOGAS (Gas Turbine) – Jet A1 AVTUR - Jet B (AVTAG)
- 5 Electric System Battery – Alternator – Generator – Voltage Regulator– Inverter – Bus bar – External Power – Ammeters –Volt Meter – Master Switch – Starter Motor – Fuses –Circuit Breaker – Overload Switches
- 6 Hydraulic System Hydraulic Principles – Fluid – Reservoir – Pumps –Accumulator – Check Valves – Relief Valves –Selector – Filter and Cooling – Under Carriage –Brakes
- 7 Instruments - Pressure Instrument- Gyro Instruments- Compass Instruments
- 8 Environmental Control - Cabin Ventilation and Heating- Air Conditioning- Oxygen System – Pressurization
- 9 Protection System Fire detectors – Smoke and Gas Detectors – Fire extinguishing Systems

10 Lubrication & Cooling System Function of engine oil – Types of Engine Oil – Oil Consumption – Oil Properties
– Wet sump and Dry sump oil system – The Cooling System

PPL HUMAN PERFORMANCE AND LIMITATION(5 Hours)

- 1 Physical Pilot Circulatory System – Respiratory System –Environment of Flight – Flying at Altitude
- 2 Health and Wellbeing Health Indicators – Medical Certificates – Medical Fitness – Physical & Mental Fitness – Substance Abuse
- 3 Vision & Visual Illusions Structure of the eye – Vision – Visual Scanning –Visual Judgment on Approach – Visual Illusions
- 4 Hearing & Balance Structure of the ear – Hearing – Balance –Disorientation & Illusions – Motion Sickness – Load Factor
- 5 Stress Arousal and Fatigue Stress – Arousal – Fatigue – Sleep and the effects of Aging

PPL NAVIGATION (10 Hours)

- 1 Terminology (General) - Form of the earth, Geographical poles, Equator- Polar Diameter, Equatorial diameter, Compression ratio- Great Circle, Small Circle Rhumb line- Parallels of latitude, Meridian, Prime Meridian(Greenwich meridian), Graticules- Latitude, Longitude, Geographical co-ordinates- Units of distance (Nautical Miles, Statute Miles,Kilometers)
- 2 Direction - Reference directions (True North, Magnetic North,Compass North, Grid North)- Variation, Deviation, Grivation- Isogonals, Agonic Lines, Isoclinals, Aclinic Lines,Magnetic dip (Magnetic inclination)- True Direction, Magnetic Direction, CompassDirection, Grid Direction
- 3 Convergency andConversion AngleTriangle of Velocities- Convergency, Conversion Angle,Earth Convergence, Chart Convergence- Vector TriangleAir Vector (Heading and T.A.S) Wind Vector (Wind Direction and Wind Speed)Ground Vector (Track and Ground Speed)
- 4 Definitions and Symbolsused in Air Navigation- Heading, Track, Wind, Velocity, Drift, Drift Corrections,True Airspeed, Ground Speed- Pin-point, Ground Position, D.R. Position- Relative bearing, True bearing, Magnetic bearing,and the relationship between them- Position Lines, Fixes
- 5 D.R.Computer - Dead-reckoning Navigation (D.R. Nav)- Particulars of D.R.Computer- Basic Arithmetical Solutions- Graphical solutions relevant to vector triangle
- 6 D.R. Computer - Conversions of –Distances Weights Capacity- Calculation of T.A.S and Mach Number- Calculation of True Altitude and Density Altitude
- 7 Chart Projection - Chart, Topographical map, orthomorphism and conformity, perspective projection and non perspective projection- Scale and methods of expressing scale- Scale problems and solutions- Mercator's Projection
- 8 Chart Projection - Lambert's Conformal Conic Projection- Polar Stereographic Projection - Transverse Mercator Projection- Oblique Mercator Projection
- 9 Time - The orbital revolution of earth round the sun rotating about its axis- Day and Night- Apparent Solar Time, Mean Solar Time

10 Time - Local Mean Time (LMT), Greenwich Mean Time(GMT), Coordinated Universal Time (UTC),Standard Time (ST)- International Date Line, Gaining or losing of date after crossing the International Date Line-Sunrise, sunset and twilight

PPL METEOROLOGY (10 Hours)

- 1 The Atmosphere The Atmosphere, Air Density, Subdivision of the Atmosphere, Composition of Air, Maritime and Continental Air Masses, Humidity, Atmospheric Pressure, The Pressure Gradient, Regional QNH
- 2 Heating Effects in the Atmosphere The Sun, Seasonal Variations, Solar Heating, General Circulation, Terrestrial (Re-radiation, local heating and cooling surface heating, cloud cover)
- 3 Heating Effects in the Atmosphere The transfer of heat energy (Radiation, Absorption, Conduction, Convection, Advection), Local Air Movements, The Sea breeze by day, the breeze by night, Katabatic Winds, Anabatic Winds, Temperature inversions, Temperature measurements (heat energy, temperature scales)
- 4 International Standard Atmosphere The International Standard Atmosphere (ISA), The ISA and the real atmosphere, What is Wind, How wind is described, veering and backing, what causes wind to blow, the pressure gradient force, the Coriolis force
- 5 Wind The Geotropic wind, Buys Ballot's Law, Flying from high to low, Flying from low to high, The Gradient Wind, The Surface Wind, Diurnal Variation in the surface wind, Localized friction effects, Flights in Turbulence, Winds associated with mountains
- 6 Clouds Cloud, The Naming of Clouds, High-level Clouds Cirrus Cirrocumulus (c), cirrostratus (Cs), Middle-level Cloud Altocumulus (Ac), Altostratus (As), Low-level Clouds – Nimbostratus (Ns), Stratocumulus (Sc), Stratus (Sc), Cumulus (Cu), Cumulonimbus (Cb), Precipitation, Stratus Fractures, Cumulus fractures, Castellonous, Lenticularis
- 7 Clouds Moisture in the Atmosphere, the states of water (solid, liquid, gas), Humidity, Relative Humidity, Dew point temperature, Adiabatic Process, Cloud Formation, Clouds formed by convection due to Heating, Clouds formed by orographic uplift, Clouds formed by Turbulence and Mixing, Precipitation associated with clouds, Clouds Description in forecasts and reports
- 8 Visibility Visibility, Visibility for a pilot, particles in the air, position of the sun, inversion and reduced visibility, mist and fog, radiation fog, dispersal of radiation fog, advection fog, Visibility in forecasts and reports
- 9 Weather Forecasts, Reports and Warnings
1. Meteorological Aerodrome Report (METAR) Decoding the METAR, Reporting Type, Aerodrome, Date-time Groups, Wind Information, Visibility, the weather group, thunderstorms, clouds, coverage, obscuration, temperature and dew points, QNH, Recent Weather, wind shear trend, Runway State Group, Special Reports, End of message.
2. Terminal Aerodrome Forecasts (TAFs) Decoding TAFs, the date-time groups, wind, clouds, forecast change indicators, from group, becoming group, the temporary group, Amendment, end of message.
3. SIGMET Decoding the SIGMET, Complete SIGMET message, Special SIGMETs.
4. Meteorological Information by Aircraft In Flight (VOLMET) VOLMET Operation VOLMET Broadcasts in the HF Band

PPL FLIGHT PERFORMANCE AND PLANNING / MASS & BALANCE (10 Hours)

- 1 Definitions Center of Gravity (CG) – CG Limits – Datum – Balance Arm – Loading Index – Basic Empty Mass – Dry operating mass – Operating Mass – Traffic Load – Useful Load – Maximum zero fuel mass – Maximum structural taxi mass

- 2 Mass & Balance Limitations of CG position – Effect of overload – Effect of CG outside forward limit – Effect of CG outside the aft limit – Movement of CG in flight
- 3 JAR Performance Classification Performance Class A – Performance Class B – Performance Class C – Performance Expressions
- 4 General Principles Takeoff - Takeoff – Available Distance – Clearways – Stop ways– Takeoff run available (TORA) – Takeoff Distance Available (TODA) – Accelerate Stop Distance Available (ASDA) / Emergency Distance Available(EMDA)
- 5 Required Distance – Calculating the Takeoff Distance– Thrust of different engines – Drag during takeoff
- 6 Effect of Variable Factors on Takeoff Mass – Air Density – Wind – Runway Slope – Runway Surface – Airframe Contamination – Flap Setting
- 7 Climb & Descent Climb – Angle of Climb – Excess Thrust – Effect of Weight on Climb Angle – Calculating Climb Gradient –Descent – Angle of Descent – Factors affecting descent (Weight, Configuration, Wind)
- 8 Landing Landing distance – Landing Distance Available (LDA),Reverse Thrust (Jet Engine, Propeller Engine), Drag,Induce Drag, Parasite Drag – Wheel and Brake Drag
- 9 Landing Landing Distance Formula – Effect of variable factors on landing distance – Weight – Density – Wind – Flap Setting – Runway Slope – Runway Surface – Grass Contamination

PPL OPERATIONAL PROCEDURES (10 Hours)

- 1 Introduction to Subject Operational Procedure Introduction – ICAO Annex 6 – AOC (Air Operator Certificate) – Operational Control – Safety – Flight Time – Maintenance Release
- 2 CS- OPS General Requirements Applicability – Crew Responsibilities – Responsibilities of the Commander – Authority of the Commander –Documents to be carried – Manuals to be carried
- 3 Operational Procedures Fuel Policy – stowage of baggage and cargo –passenger briefing – Flight Preparation
- 4 Aeroplane Equipment and Instrument First-Aid Kits – Handheld fire extinguishers –equipment required for VFR Flights and IFR Flights –Standby Horizon – Aeroplane Lighting
- 5 Aeroplane Equipment and Instrument Emergency and Survival Equipments – Seats &Harness – Crew Protective Breathing Equipment(PBE), Emergency Lighting – Emergency Locator Transmitter (ELT)
- 6 Crew,Logs and Records Crew Composition – Qualification required for command – Nomination as Commander Training Records
- 7 Hazards Minimum Equipment List (MEL) – MEL operator's responsibilities – MEL Commander's responsibilities –Blind Strike Risk and Avoidance – Hazard to Aeroplane
- 8 Fire and Smoke Fire and Smoke – Piston Engines – Turbo-engines –Fire in the aeroplane – Fire detection system – Smoke(Class A,B,C,D,E) – Crew Protective Breathing Equipment (PBE)
- 9 Wind shear and microburst Wind shear – Vertical wind shear – Horizontal windshear – Meteorological features – Effect of wind shear– Vital actions to counter the loss of airspeed – Microburst – Action and Escape
- 10 Wake Turbulence Wake Vortices – Characteristics – Patterns – Time of Generation of Vortex – Wake vortices from helicopter –Separation Minima

PPL PRINCIPLE OF FLIGHT (10 Hours)

- 1 Properties of Air Composition of Air – Structure of Atmosphere – Properties of Atmosphere – Pressure Density – Temperature – Viscosity – Humidity – International Standard Atmosphere
- 2 Principle of Airflow Static Pressure – Dynamic Pressure – Streamline flow– Steady Flow – Turbulent Flow – Venturi Tube – Bernoulli's Theorem
- 3 Aerofoil and Bernoulli's Theorem – Aerofoil Definition – Thickness by chord ratio – Aspect Ratio
- 4 Lift Pressure Distribution Changes with Angle of Attack – Center of Pressure – Lift Force and CL – Pitching Movement – Aerodynamic Center – Effect of camber on CL
- 5 Drag Drag Definition – Zero Lift Drag – Parasite Drag – Induced Drag – Reduction of Induced Drag – Lift-Drag Ratio
- 6 Stall Recognition of Stall – Recovery from the Stall – Stall Warning Devices – Factors affecting the Stall Speed – How a spin develops
- 7 Balance & Trim Balance in straight and level flight – Forces in balance– Pitching movement – Tail plane Tabs – Fixed Tabs – Trim Tabs
- 8 Stability and Control Static Stability – Dynamic Stability – Longitudinal Stability – Directional Stability – Lateral Stability Pitch Control – Roll Control – Yaw Control – Mass Balance – Balance Tab – Anti-Balance Tab – Servo Tabs
- 9 Flight Profile Straight and Level Flight – Climbing – Descending – Turning
- 10 Atmosphere Disturbances Wind – Wind Shear – Air Density – Air Speed – Turbulence

PPL RADIOTELEPHONY(10 Hours)

- 1 Glossary General Operations Procedures Definitions – Abbreviations – Explanation of Scenario Transmitting Techniques – Transmission of Letters, numbers, time – Standard Words and Phrases – Call Signs – Communications
- 2 General Phraseology Aerodrome Control Explanation of the role of Phraseology and Plain Language – Level Instructions – Position Reporting – Flight Plan Departure Information and Engine Starting Procedures – Pushback and power back – Taxi Instructions – Take-off Procedures – Aerodrome Traffic Circuit – Final Approach & Landing – Go-around After Landing – Essential Aerodrome Information
- 3 Aerodrome Control Vehicles General Radar Phraseology Movement Instructions – Crossing runways – Vehicles towing aircraft Radar Identification and Vectoring – Radar Vectoring – Traffic Information and Avoiding Actions – Secondary Surveillance Radar - Radar Assistance to Aircraft with Radio communication Failure – Alerting Phraseologies
- 4 Approach Control IFR Departures – VFR Departures – IFR Arrivals – VFR Arrivals – Radar Vectors to Final Approach – Surveillance Radar Approach – Precision Radar Approach
- 5 Area Control Area Control Units – Position Information – Level Information– Flights Joining Airways – Flights Leaving Airways – Flights Crossing Airways – Radar – Automatic Dependent Surveillance (ADS) – Oceanic Control

6 Distress & Urgency Procedures Communications Failure Procedures Distress Message – Aircraft Distress – Imposition of Silence – Termination of Distress and Silence – Urgency Message Emergency Descent – Aircraft Communications Failure

7 Transmission of Meteorological and other Aerodrome Info Miscellaneous Flight Handling Runway Visual Range (RVR) Runway Surface Condition Selective Calls (SELCAL) – Fuel dumping – Wake Turbulence – Wind Shear – Direction Finding – ACAS Maneuvers

PPL (H) TRAINING SYLLABUS FOR THE FLIGHT TEST

1. This syllabus lists all the items which should be covered during training for the flight test. The flight test will be conducted at the maximum permissible landing weight. The candidate will be required to demonstrate a satisfactory standard of knowledge and handling in any of the items listed below.
- (a) Pre-flight inspection.
 - (b) Starting procedure; running up.
 - (c) Taxying.
 - (d) Take-off, hovering and landing into wind.
 - (e) Flying a square pattern with constant heading at speeds not exceeding 25 knots.
 - (f) Take-off, turn 360 deg each way in hovering flight, crosswind landing within limitations of the type of helicopter.
 - (g) Straight and level flight at given power settings and airspeeds.
 - (h) Climbing and descending turns.
 - (i) Steep turns at constant altitude and airspeed.
 - (j) Entry into autorotation, go-around procedure.
 - (k) Landing in simulated autorotation on a given spot.
 - (l) In servo-controlled aircraft, an approach and landing using the supplementary system.
 - (m) Recognition and correction of over-pitching.
 - (n) Limited power take-off and landing.
 - (o) Action on the event of fire in the air.
 - (p) Flight into, and out of, a restricted landing area.
 - (q) Shut down procedures.

2 PPL (H) FLIGHT TEST TOLERANCE

- 2.1 The following limits are for general guidance. The Flight Examiner will make allowance for turbulent conditions and the handling qualities and performance of the helicopter used.

Height:

normal forward flight	± 150 feet
with simulated major emergency	± 200 feet
hovering I.G.E. flight	± 2 feet

Heading / Tracking radio-aids

normal flight	$\pm 10^\circ$
with simulated emergency	$\pm 15^\circ$

Speed

take-off and approach	-10/+15 knots
all other flight regime	± 15 knots

Ground drift

T. O. hover IGE	± 3 feet
Landing	± 2 feet (about 0 feet rearward or lateral flight)

PPL (H) GROUND EXAMINATION SYLLABUS

- 1 The syllabuses for Aviation Law, Flight Rules and Procedures, Navigation, Meteorology and Human performance and limitations are as detailed Appendix B for PPL (A).
- 2 **GROUND EXAMINATION - AIRCRAFT RATING (GENERAL) (SINGLE-ENGINE HELICOPTERS)**
 - 2.1 **Properties of Air**

Definition and significance of density, pressure, temperature and the relationship between them; humidity; International Standard Atmosphere.
 - 2.2 **Principles of Flight**

Understanding of and relationship between: relative air flow/angle of attack/pitch angle/total reaction/weight, thrust/drag in respect of an aerofoil and the rotor as a whole. Understanding and significance of associated terms such as: coning angle, flapping, phase lag, dragging, flapback, dissymmetry of lift, torque reaction, vortex ring state, ground cushion, ground resonance, autorotation, stability, and over-pitching. A general knowledge of forces acting on the helicopter in all phases of flight including interaction between main and tail rotors. Rotor speed limitations.
 - 2.3 **Flying Controls and Transmission Systems**
 - 2.3.1 A general knowledge of Flying Control Systems (including basic servo operated systems), interconnected engine controls and trimming devices. A detailed knowledge of the direction of movement and functioning of controls.
 - 2.3.2 A general knowledge of types of main rotor head, blades and tail rotors in common use.
 - 2.3.3 A general knowledge of transmission systems, clutches, free wheel units and tail rotor drives in common use.
 - 2.4 **Engines**
 - 2.4.1 The piston or gas turbine engine section of PPL (H) - Ground Examination Aircraft Rating (General), as applicable to the type of helicopter for which application is made, must be successfully completed prior to type endorsement on a PPL (H). Should application be made for a helicopter with an engine of different technology from that already endorsed on a PPL (H) Aircraft Rating (General), then the applicable engine section of the PPL (H) Aircraft Rating (General) Examination must be successfully completed prior to endorsement of the licence with the new type.
 - 2.4.2 *Piston Engines*

A general knowledge of the principles and operation of a piston engine and associated systems (e.g. ignition, cooling, carburetion, fuel and oil). Engine control and indication of performance. Operation of associated controls. Operating limitations. A general understanding of the possible technical reasons for engine failure in flight.
 - 2.4.3 *Gas Turbine Engines*

A general knowledge of the principles and operation of a gas turbine engine and associated system (e.g. fuel, oil, starting and ignition). Engine control and indication of performance. Operation of associated controls. Operating limitations. A general understanding of the possible technical reasons for engine failure in flight.
 - 2.5 **Systems**
 - 2.5.1 *D.C. Electrics*

A general knowledge of the principles of generating and distribution systems. Batteries and their capacity. Components in general use.

2.5.2 *Instruments*

A general knowledge of pitot/static systems and the operation of associated instruments. A general knowledge of the operation of gyroscopic flight instruments and also of instruments associated with electrical, engine and transmission systems.

2.5.3 *Vacuum*

A general knowledge of systems in use. Normal / abnormal indications.

2.5.4 *Hydraulic*

A general knowledge of the operation of systems in general use. Normal/abnormal indications.

2.6 **Heating and Ventilation**

A general knowledge of the operation of systems in general use.

2.7 **Loading and Performance**

Understanding of the principles of weight and balance calculation; significance of the C of G datum and the importance of establishing the C of G within the correct limits, longitudinal and lateral. Knowledge of precautions to be taken when loading a helicopter, e.g. security of loads and hazards of magnetic and flammable goods. Factors affecting hover, take-off, climb, autorotative and landing performance. Hazards of exceeding maximum total weight authorized.

2.8 **Emergencies**

General principles of the action to be taken in the event of a fire in the air or on the ground. Type of fire extinguishers and methods of use. Basic knowledge of First Aid and use of kits which are generally available. Knowledge of requirements for stowage and use of life jackets and life rafts. Recognition of the effects of carbon monoxide and knowledge of its dangers.

2.9 **Aircraft Airworthiness**

Knowledge of the requirement for the content of: Certificate of Airworthiness; Certificate of Maintenance Review. Understanding the requirements of the Approved Maintenance Schedule. Understanding the scope and responsibility of Pilot Maintenance and Duplicate Control Inspections.

2.10 **Structural Limitation**

Precautions to be observed when recovering from the more unusual attitudes of flight, e.g. steep turns, steep dives, autorotation, etc. Avoiding excessive vibration and g forces. Understanding of actions required after a heavy landing or after flight through severe turbulence and typical indications of structural damage.

3 **GROUND EXAMINATION-AIRCRAFT RATING (TYPE) (SINGLE- ENGINED HELICOPTERS MTMA NOT EXCEEDING 2750 kg)**

3.1 This examination will confine to the specific type of helicopter upon which the applicant is being flight tested and must be successfully completed for each type on which the applicant wishes to qualify. A satisfactory standard of knowledge in the following areas must be demonstrated.

3.1.1 Airframe Limitations

3.1.2 Performance

3.1.3 Flying Controls and Transmissions

3.1.4 Rotor Heads

3.1.5 Blades Tail Rotor Drives

3.1.6 Servo Systems

3.1.7 Power Plant

3.1.8 Fuel and Oil System

3.1.9 Controls

3.1.10 Flight Instruments

- 3.1.11 Electrical Systems
- 3.1.12 Heating and Ventilation System
- 3.1.13 Auto-stabilizer (if fitted)

4 GROUND EXAMINATION -AIRCRAFT RATING (GENERAL) AND AIRCRAFT RATING (TYPE) - MULTI-ENGINE HELICOPTERS

Due to the generally more complex nature of multi-engine helicopters, pilots wishing to include in their licence a rating for such a helicopter shall normally be required to take the Aircraft Rating (General) and Aircraft Rating (Type) Ground Examinations which are set for professional helicopter licences. The syllabus for these examinations is as follows:

4.1 Aircraft Rating (General)

4.1.1 The syllabus for the Aircraft Rating (General) ground examination is:

Principles of flight (helicopters)/helicopter controls/rotors and transmissions

Piston engines and supercharging/gas turbines

DC electrics/AC electrics

Hydraulics

4.2 Syllabus

4.2.1 *Principles of flight*

The general principles of helicopter flight.

An understanding of the derivation of lift. The effects of varying airflow conditions on the rotor. The features associated with the rotary wing concept (in-flow roll, flap back, lift dissymmetry, cross-coupling effects, phase-lag, torque reaction, coriolis effect, vortex ring state) and the methods employed to accommodate these effect. The effects of operation through various flight phases (hover, trans ition, translational flight, autorotation). The forces acting upon a helicopter and the consequences of their variation. The meaning and relevance of terms associated with rotor wing flight. The limiting factors in rotary wing flight.

4.2.2 *Flying controls, rotors and transmission*

The general principles of helicopter flying controls and rotor head systems.

An understanding of the means by which main rotor collective and cyclic path operation and directional control are achieved, and their respective effects on the helicopter main rotor and tail rotor. The reasons for and means by which pitch control surfaces may achieve their objectives. The different types of rotor head and the way in which they respond to control inputs and airflow changes. Cross-coupling of controls. The means by which power is transmitted from engine(s) to the rotors. The means by which trim may be achieved and its corresponding effect upon helicopters.

A detailed knowledge of the responsibilities of a pilot for duplicate inspection of control systems in circumstances permitted by Myanmar Airworthiness Requirements, and in relation thereto, the inspection of control systems, movements, adjustments, stops, locking devices and bonding.

4.2.3 *Piston engines and supercharging*

The general principles of this type of engine as a propulsive unit, including propellers.

An understanding of the principles of fuel injection and carburation and the means by which such systems are controlled automatically or by the pilot to accommodate varying conditions. Induction anti-icing. The principles of ignition and the means by which ignition requirements may be met. Engine starting and shut down, and the systems which may be employed to achieve such operations. The requirements of engine cooling and lubrication systems and the means by which these requirements may be met. The problems associated with fuel storage on board the aircraft and the features incorporated to accommodate these problems. Engine fire detection and protection. The parameters

which may be measured to assess engine performance in flight and the effect of varying ambient conditions on these parameters.

A detailed knowledge of the responsibilities of a pilot for duplicate inspection of control systems in circumstances permitted by the Myanmar Airworthiness Requirements, and in relation thereto, the inspecting of control systems, movements, adjustments, stops, locking devices and bonding.

A general principles of supercharging/turbo-charging piston engines.

An understanding of the various means available for supercharging/turbo-charging. The mechanisms which may be employed to regulate superchargers/turbo-chargers and how they achieve their effect. The effects on engine parameters of varying supercharging and ambient conditions. The meaning and significance of full throttle height, manifold pressure, boost, exhaust gas temperature, and the effects of varying ambient conditions and control inputs on them.

4.2.4 *Gas turbine engines*

The general principles of gas turbine engines.

An understanding of the various stages of a gas turbine cycle. The problems associated with centrifugal and axial compressors and the means by which they are overcome. Engine fuel control and delivery to the combustion systems. The effects of varying ambient conditions and the methods which may be employed to accommodate them. Engine starting relighting and shutdown and the systems which may be employed to achieve such operations. The requirements of engine lubrication systems and the means by which they may be met. Any requirements for thrust augmentation and the means by which it may be met, and the effect on the engine of its operation. Thrust reverse systems. The problems associated with fuel storage on board the aircraft and the features incorporated to accommodate these problems. Engine fire detection and protection. The parameters which may be measured to assess engine performance in flight and the effect of varying ambient conditions and air bleeds on these parameters. Engine anti-icing systems.

A detailed knowledge of the responsibilities of a pilot for duplicate inspection of control systems in circumstances permitted by Myanmar Airworthiness Requirements, and in relation thereto, the inspection of control systems, movements, adjustments, stops, locking devices and bonding.

4.2.5 *D.C. Electrics*

An understanding of the general principles underlying the production of d.c. from electro-magnetic or chemical sources. The quantities and units associated with d.c. electrics.

An understanding of d.c. generators and their control. Electrical supply systems and associated components. The paralleling of d.c. supplies. The components and parameters employed to monitor generator, battery or bus-bar supplies. Failure warning devices. Circuit protection devices. The production of constant frequency a.c. from d.c. lead acid and nickel cadmium batteries. Motors and actuators. Bonding. Single and double pole distribution.

4.2.6 *A.C. Electrics*

An understanding of the general principles underlying the production of a.c. from electromagnetic sources. The quantities and units associated with a.c. electrics. An understanding of a.c. generators and their control. A.C. electrical supply systems and associated components. The paralleling of a.c. supplies. The components and parameters employed to monitor supply. The transformation of a.c./d.c. power from a.c. supplies. The effects of varying supply parameters on inductive or capacitive load.

4.2.7 *Hydraulics*

The general principles of transmission of force by fluid under pressure.

An understanding of the means by which pressure is produced and how pressure is controlled in a system. Constant pressure and constant delivery systems. Accumulators and the reasons for their installation. Valves associated with pressure distribution. Normal and abnormal system operation.

Safety features which may be incorporated in systems. The problems associated with storage and supply of hydraulic fluid on an aircraft. The requirements of hydraulic fluids and seals and the different types encountered.

4.3 Aircraft Rating (Type)

4.3.1 Applicants are required to have a satisfactory knowledge of items in this part of the syllabus only insofar as they relate to the helicopter type for which a rating is sought.

4.3.2 Limitations

Weight and loading limitations; definitions of the datum point. Centre of gravity (if centre of gravity limits vary and are shown by a graph, questions on the matter are only of a general nature). Speed limitations. Engine operating limitations. Rotor limitations. Temperature and altitude limitations.

4.3.3 Engine operation

The management of the engine(s) and their installations, and the effect of changes in ambient conditions on their performance. Starting procedure and method of determining that power output is satisfactory. Operation under normal, abnormal and emergency conditions and precautions to be observed (this covers running up, taxiing, lift-off, hover, cruising, shutting down and/or relighting/restarting in the air, autorotation, landing, shutting down). Symptoms indicating icing and management of equipment provided to contend with icing when icing is experienced or expected. Action in the event of fire in flight and on the ground.

4.3.4 Auxiliary power unit (when approved for use in flight)

Management under normal, abnormal and emergency conditions. Action in the event of fire in flight and on the ground.

4.3.5 Auxiliary power unit (when approved for ground use only)

Management under normal and abnormal conditions. Action in the event of fire.

4.3.6 Fuel systems (including engine refrigerants such as water or water methanol)

Grade(s) of fuel to be use. Refrigerant to be use. Location and management of refuelling and defuelling, and water/sediment drainage points. Tank capacities (usable/unusable fuel) and means of ascertaining contents on the ground and in flight. The means of ascertaining fuel consumption enroute. Management under normal, abnormal and emergency conditions. Effects of altitude changes in flight.

4.3.7 Oil systems (engine)

Grade(s) of oil to be used. Location of replenishing and drainage points. Capacity (tank, sump or usable) and means of ascertaining contents on the ground and in flight. Management under normal, abnormal and emergency conditions.

4.3.8 Control and transmission systems

A knowledge of the main and anti-torque rotors; collective, cyclic and directional control systems; trimming devices; stabilizers; rotor brakes. The system provided for converting engine output into rotor rotation. Management under normal, abnormal and emergency conditions and precautions to be observed. Grades of lubricating oils and hydraulic fluids; location of replenishing points and method of ascertaining correct contents. Indicating and warning devices associated with the control and transmission systems.

4.3.9 Automatic stabilization systems (systems to augment stability in flight)

Management under normal, abnormal and emergency conditions. Indications of abnormal functioning.

4.3.10 Automatic pilot system (systems for automatic control of the path of the helicopter)

Management under normal, abnormal and emergency conditions. Indications of abnormal functioning. Switching arrangements with associated system.

4.3.11 Instrument and compass systems (including flight systems)

Normal and alternative pitot, static and vacuum supplies. Normal, alternative and emergency electrical

power supplies; associated circuit protection, switching and warning devices. Operation of the instrument and compass controls (knobs, switches, etc.), which affect the presentation given by the instruments and compass presentation. Switching arrangements with associated systems.

Note: Only type knowledge is covered and only to the extent detailed above. It is emphasized that this examination is not concerned with either general or type knowledge of how instruments and compasses work; nor with their operational use.

4.3.12 *Pneumatic Pressure and/or vacuum systems*

The purpose of the principal components. Management under normal, abnormal and emergency conditions.

4.3.13 *Hydraulic systems*

Location of replenishing points. Means of ascertaining the contents on the ground and in flight. Management under normal abnormal and emergency conditions.

4.3.14 *Landing gear (land and water) and wheel brake systems*

Management under normal, abnormal and emergency conditions.

4.3.15 *Electrical systems*

Meaning of terms. Knowledge of the condition of aircraft batteries and the method of ascertaining the voltage and charge. An elementary knowledge of the principles of operation of the generating system(s). Ground power supplies. Location and functioning of circuit breakers and fuses. Lighting systems, internal and external. Management of the electrical systems under normal, abnormal and emergency conditions.

4.3.16 *Radio and radar systems*

Normal, alternative and emergency power supplies; associated circuit protection, switching and warning devices.

Note: Only type knowledge is covered and only to the extent detailed above. It is emphasized that this examination is not concerned with either general or type knowledge of how radio and radar systems work, nor with the use of such systems.

4.3.17 *Air conditioning systems*

Meaning of terms. The principles of operation, the purpose of the principal components. Management under normal, abnormal and emergency conditions. Indications of abnormal functioning.

4.3.18 *Ice and rain protection systems*

Indications of icing. Management when icing is experienced or expected under normal, abnormal and emergency conditions. Management to maintain clear vision. Replenishment and duration of supplies.

4.3.19 *Additional aspects*

(a) Emergency equipment and procedures

Location and management of emergency exits and equipment, including oxygen. Action in the event of fire (other than engine or auxiliary power unit fire which is included in the appropriate section). Methods of dispersal of smoke in compartments.

(b) Fuselage apertures (doors, hatches, etc)

Security procedures and indications for fuselage apertures and associated devices such as air-stairs.

(c) Equipment for specified flight roles (spray gear, freight, winches etc.)

Management under normal, abnormal and emergency conditions.

4.3.20 *Flight characteristics*

In accordance with data in the appropriate flight manual: take-off technique; regulation of weight with special regard to the characteristics of the take-off and landing areas, and enroute flight conditions; behaviour of the aircraft following engine failure; emergency landing techniques.

APPENDIX – E

RECORDING AND CREDITING OF FLIGHT TIME

Case	Operating Capacity	Aircraft Rating (A) Requirements in professional pilot's licence, or Aircraft group rating in PPL where applicable	Non-pilot licence Requirements	Designation in log book under 'Holder's Operating capacity	Recording of item in log book and crediting of such time toward licence experience requirements
1	2	3	4	5	6
A	Pilot-in-command (PIC)	Part 1: Appropriate PPL group	N/A	PIC or P1	Enter time in 'P1' column, Counted in full.
B	Co-pilot performing the duties of PIC under supervision of pilot-in-command (PIC U/S) See Note 2	Part 1 or Part 2; Appropriate PPL group	N/A	PIC U/S	Enter time in 'P1' column. Counted in full toward licence experience requirements subject to certification by the pilot-in-command.
C	Co-pilot See Note 3	Part 2 or Part 1	N/A	P2	Enter time in 'Second Pilot' or in 'Co-pilot (P2)' column. Counted at half rate toward Overall licence experience requirements.
D	Co-pilot whilst holding PPL	Group B or C	N/A	P2	Enter times as for Case C. Counted at half rate towards overall licence experience requirements for professional pilots' licences.
E	Pilot acting as (i) Systems Panel Operator (SPO) in aircraft certificated for optional operation by three pilot crew; or (ii) Flight Engineer (FE) in aircraft certificated for optional or mandatory operation by two pilots + F E crew	N/A N/A	N/A F E licence with rating	SPO E1	Enter time in the 'F Eng', 'Any other flying' or spare column and annotate 'SPO' or 'F Eng' as appropriate. Not counted towards licence experience requirements.

F	Pilot on flight deck but not as P1, P2, SPO or F E: (i) Acting as 'required' Flight Navigator (under the Air Navigation Order);	N/A	F/N licence	N1	Enter time in the 'F/Nav', 'Any other flying' or spare column and annotate 'N1'. Not counted toward licence experience requirements
	(ii) Pilot supervising Co-pilot activities;	Part 1	N/A	P2	Enter time for Case C and count at half rate toward overall licence experience requirements.
	(iii) Other flying duties	N/A	N/A	SNY	Enter time in 'Any other flying' or spare column and annotate 'SNY'. Not counted toward licence experience requirements.
G	Pilot under instruction for the purpose of gaining a licence or rating, or for conversion to an aircraft type within a PPL Aircraft Rating group.	N/A for grant of a licence or Aircraft Rating. Otherwise Part 1 or Part 2, or appropriate PPL Aircraft Rating group.	N/A	P/UT	Enter time in 'Dual' column, Counted in full toward overall licence experience requirements.
H	Pilot under instruction on an APPROVED COURSE of CPL or CPL/IR training acting as pilot-in-command under the supervision of a flying instructor.	N/A	N/A	PIC U/S	Enter time in 'P1' column. Counted in full toward PIC requirements for grant of a CPL or CPL/IR subject to certification by the supervising pilot and to a maximum agreed between DCA and the flying training organisation conducting the Approved Course.

I	Pilot undergoing any form of flight test other than for the grant renewal or extension of an aircraft rating Part 2.	N/A for grant of a licence or Aircraft Rating. Part 2 for upgrade of Aircraft Rating from Part 2 to Part 1. Otherwise, Part 1 or appropriate PPL Aircraft Rating group.	N/A N/A	PIC U/S for successful test P/UT for unsuccessful test	For successful test enter time in 'P1' column and have it certified by the aircraft commander. For unsuccessful tests enter time in 'Dual' column. PIC U/S time counted in full within maximum specified in Cases B and H. P/UT time counted in full toward overall licence experience requirements.
J	Pilot undergoing a flight test in the capacity of co-pilot for grant of a licence or rating or for variation of rating, or in relation to Certificate of Test.	N/A for grant of a licence or Aircraft Rating. Otherwise, Part 2.	N/A	P2	As for Case C.
K	Student pilot flying as the sole occupant of an aircraft during training for the grant of a PPL or CPL.	N/A	N/A	PIC or P1	Enter time in 'P1' column. Counted in full.
L	Student pilot flying as pilot-in-command during training for the grant of a CPL accompanied by:	PPL for appropriate Group or Exemption from holding a PPL.	N/A	PIC or P1	As for Case L.
M	Pilot undergoing AFI training as pilot-in-command accompanied by: Pilot acting as 'student' for instructional purposes	Part 1; Appropriate PPL group Part 1; Appropriate PPL group	N/A N/A	PIC or P1 SNY	Roles in Column 2 are interchangeable between pilots. Time spent as 'P1' to be entered and counted as for Case L. Time spent as 'student' to be entered and counted as for Case F (iii).

Notes:

1. Whenever two pilots performing duties in the same capacity, share a particular operating duty on a flight, each pilot shall only record (in the appropriate column of his personal log book), the time when he actually performed such duty in the pilot's or co-pilots seat during the flight. The time spent

away from duty in the respective seat shall be logged as SNY as per F(iii) in the foregoing table. Such time shall NOT count towards licence experience requirements, but shall apply for FDP and FTL.

2. A pilot claiming time spent as co-pilot performing the duties and functions of pilot-in command, under the supervision of the pilot-in-command, toward meeting the licence requirements as given in Case B, will be credited with that flight time only if:
 - (a) the flight was conducted in an aircraft having a Certificate of Airworthiness which requires its flight crews to include not less than two pilots;
 - (b) he was responsible for checking the accuracy of the flight plan, loadsheet and fuel calculations for the flight;
 - (c) he ensured that all crew checks were carried out in accordance with the laid down operation procedures;
 - (d) throughout the flight he carried out all the duties and functions of pilot-in-command and conducted the take-off and the landing;
 - (e) he resolved all meteorological, communication and air traffic control problems;
 - (f) the pilot-in-command did not have to overrule any course of action proposed or taken by the co-pilot;
 - (g) the pilot-in-command certifies in the co-pilot's flying log book against the entry for that flight that it was carried out by the co-pilot acting as pilot-in-command under supervision. Such certification will be taken as confirming that all the foregoing conditions were met.
3. A pilot claiming flying hours as co-pilot towards meeting the overall flying experience requirements for a licence, as provided for in cases C, D, F (ii) or K, will only be credited with that flight time if holding an appropriate licence to perform co-pilot duties, and if:
 - (a) the flight was conducted in an aircraft required by its Certificate of Airworthiness, or the Myanmar Aircraft Regulations, to carry a crew of not less than two pilots; or
 - (b) the flight was conducted by an Air Operator's Certificate (AOC) holder choosing to operate a particular aircraft as a two pilot operation and provided that the specific duties that the second pilot was required to perform on all flights in respect of the operation of the aircraft were contained in the Operations Manual relating to the aircraft; or
 - (c) it was conducted in a military aircraft normally flown by more than one pilot.
4. Flight time as PIC U/S, apart from as specifically provided for under Case J above, will only be allowable for the holder of a PPL subject to the terms of a prior agreement with the DCA.
5. Any pilot conducting proficiency tests or training or supervision or supernumerary duties, from any seat other than the pilot's or co-pilot's seat, shall record (in the appropriate column of his logbook) such flying as SNY as per F(iii) in the foregoing table. Such time shall NOT count towards licence experience requirements, but shall apply for FDP and FTL.

INSTRUMENT RATING FLIGHT TEST SYLLABUS AND FLIGHT TEST CONDITIONS

1 FLIGHT TEST SYLLABUS

1.1 Section 1: Departure Procedure

All pre-departure checks and drills necessary to check and prepare the aircraft and its equipment for the safe conduct of the flight. A visual take-off followed by an instrument climb-out and departure, following the routings published for the aerodrome, unless ATC otherwise directs.

1.2 Section 2: Airways Procedure

Entry into, flight within and departure from airways in accordance with ATC clearance, using tracking facilities as briefed by the Flight Examiner.

1.3 Section 3: ILS Instrument Approach Procedure

An approach to land procedure, as published in the relevant AIP for the facility in use, descending to a specified Decision Height and position from which a direct landing may be made. Both localizer and glide-path must be used.

1.4 Section 4: NDB or VOR Instrument Approach Procedure

This is an approach to land procedure requiring descent to minimum descent altitude/ height (MDA/H). The candidate should follow the published procedure for the facility in use. Following descent to MDA/H, altitude/height should be maintained along the final approved track to a point where either:

- (a) a landing may be safely made; or
- (b) the Missed Approach Point is reached.

In the case of (b) the published Missed Approach Procedure should be carried out. On approaches to land where timing is used to estimate the Missed Approach Point from overhead the final approach fix a candidate may be asked, at some stage on the final approach, to estimate the time or distance to the runway threshold.

Note: At the conclusion of Section 3:

- (a) On reaching Decision Height, the missed approach action to establish a normal climb shall be initiated by the applicant unless otherwise directed.
- (b) The missed approach procedure as published is to be flown unless otherwise as directed, during which the Flight Examiner will also simulate failure of an engine (multi-engine aeroplanes only).
- (c) A safe flight path is to be established with simulated engine failure, followed by identification of failed engine and completion of essential actions. For multi-engine aeroplanes, feathering will be simulated by the Flight Examiner at an appropriate stage.
- (d) A climbing flight path is to be established at the recommended speed, following the published missed approach procedure or as directed by ATC, to a position from which the next instrument approach procedure may commence (Section 4 will be carried out with a simulated engine failure in the case of a multi-engine aeroplane.)

1.5 Sub-Sections

1.5.1 A series of 4 sub-sections are defined to identify procedures or manoeuvres within main sections that need to be carried out in particular circumstances.

1.5.2 *Sub-Station A: Preliminary and External Checks*

The checks specified in paragraph 1.1 up to and including starting engines.

1.5.3 *Sub-Section B: Holding Procedure*

Standard entry into a holding pattern and completion of at least one pattern of the appropriate holding procedure, including any necessary adjustments to leave the holding pattern at the Onwards Clearance Time or Expected Approach Time, if one has been specified by ATC.

1.5.4 *Sub-Section C: Engine Failure Procedures (multi-engine aircraft only)*
Identification of failed engine and simulated failure procedures. Basic handling and instrument flying following simulated engine failure.

1.5.5 *Sub-Section D: Limited Panel*
Basic handling to cover straight and level flight, turns onto specified headings and recovery from unusual attitudes.

2 TEST CONDITIONS

2.1 Decision Heights and Minimum Descent Heights (or altitudes) must be calculated by the applicant, and agreed by the Flight Examiner.

2.2 During the test the applicant will be expected to carry out all the duties appropriate to a sole flight crew member or, in the case of a test for a multi-crew rating, the handling pilot.

2.3 In the case of a multi-crew rating, the applicant may take the test in either the PIC's or copilot's seat, and will be expected to call upon the other flight crew members to help in accordance with the normal crew drills for that type of aeroplane.

2.4 Where the Flight Examiner occupies the PIC's or co-pilot's seat, he will be designated as PIC. Where he does not occupy either of these positions, the pilot occupying either one of the seats who is not undergoing the test will be designated as PIC who must be authorised by the operator of the aeroplane to act as a training or check captain on type.

2.5 The applicant must indicate to the Flight Examiner the checks and duties which he is performing, including identification of radio facilities. Checks must be in accordance with the authorised checklist for the aircraft, on which the test is being taken. Power settings and speeds should be agreed with the Flight Examiner before the start of the flight, and will normally be those given in the operations or flight manual for the aircraft type in question.

2.6 The applicant, with the remainder of the crew in the case of a test on a multi-crew aeroplane, will be briefed by the Flight Examiner before the test. The applicant will be responsible for ensuring that all equipment and documentation necessary for the planning and execution of the flight is available.

2.7 The Flight Examiner will choose the route for the test. It may start and finish at the same aerodrome or may end at another aerodrome. Applicants cannot decline to fly the nominated route solely because they are unfamiliar with it.

2.8 The Flight Examiner may be called upon by an applicant to check for the presence of airframe icing but will otherwise take no part in the operation of the aircraft except where he considers it necessary to intervene in the interests of safety or to avoid unacceptable delay to other air traffic.

2.9 The test will be assessed assuming that it is the first flight of the day, that the aircraft has been parked outside overnight in freezing conditions, that cloud is entered after take-off at 150 ft above aerodrome level, and that light icing conditions and cloud are forecast at all levels through which the test is conducted.

3 FLIGHT TEST TOLERANCE

3.1 The limits given below are for general guidance. Allowance will be made for turbulent conditions and for the handling qualities and performance of the aircraft used.

Height (a) In level flight (other than at Decision Height) (b) For starting go-around at Decision Height (c) Minimum Descent Height/ MAP/altitude	NORMAL FLIGHT	FLIGHT WITH SIMULATED ASYMMETRIC FLIGHT POWER
	+/-100 ft	+/-100 ft
	+50 ft / 0 ft	+50 ft / 0 ft
	+100 ft / 0 ft	+100 ft / 0 ft
Tracking on Radio Navigation Aids	+/-5 deg	+/-5 deg
ILS Approach	half-scale deflection on Localizer and Glide path	half-scale deflection on Localizer and Glide path
Heading	+/-5 deg	+/-10 deg
Speed	+/-5 kts (Aeroplanes) +/-10 kts (Helicopters)	+10/-5 kts (Aeroplanes) +/-10 kts (Helicopters)

**DEPARTMENT OF CIVIL AVIATION
MYANMAR**



FLIGHT CREW LICENSING MANUAL

PART 3

LICENSING OF PROFESSIONAL PILOT

PART 3
LICENSING OF PROFESSIONAL PILOT
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CHAPTER 1 GENERAL INFORMATION

INTRODUCTION

- 1 The Myanmar Aircraft Rules and MCAR PART 2 - Flight Crew Licensing provides for the issue of a pilot licence and its associated ratings for a person to act as pilot of a Myanmar registered aircraft.
- 2 The Department of Civil Aviation (DCA) on behalf of the Minister for Transport may grant these licences and ratings subject to being satisfied that the applicant is a fit person to hold the licence or rating and is appropriately qualified to act in the capacity to which the licence relates.
- 3 The privileges attached to each licence and rating are set out in the Myanmar Aircraft Rules and MCAR PART 2 - Flight Crew Licensing for the time being in force.

REQUIREMENTS FOR THE ISSUE OF LICENCES

- 4 **Age**
 - (a) Commercial Pilot Licence (Aeroplanes) and (Helicopters) : not less than 18 years.
 - (b) Airline Transport Pilot License (Aeroplanes) and (Helicopters): not less than 21 years.

Educational Standards

- 5 Commercial Pilot License (Aeroplanes & Helicopters)-An applicant shall have passed Matriculation class with its equivalent examination from a recognized Board/University.
- 6 AirLines Transport Pilot's License (Aeroplanes & Helicopters)-An applicant shall be graduated with its equivalent examination from a recognized Board/University.
NOTE: Approved Training means training carried out under special curricula and supervision approved by a Contracting State.

Medical Standards

- 7 An applicant, whether ab initio or requiring an abridged course, will not be accepted for training for an approved Commercial Pilot License course unless he satisfies the medical requirements set out in the Myanmar Aircraft Rules by passing a medical examination for the appropriate license sought and has been assessed as fit by the Designated Aviation Medical Examiner.(DAME)
- 8 The applicant for a CPL (Aeroplanes), CPL (Helicopters), ATPL (Aeroplanes) and ATPL (Helicopters) must pass the Class 1 Medical Examination as specified in the MCAR PART- 2 - 2.4.

PRIVILEGES OF PROFESSIONAL PILOT LICENCES AND RATINGS

Commercial Pilot License (Aeroplanes)

- 9 In addition to the privileges for the Private Pilot's License (Aeroplanes) which includes a Night Rating (Aeroplanes), the holder of a Commercial Pilot License shall be entitled to fly as —
 - (a) pilot-in-command of any aeroplane certificated for single pilot operation and which is of a type specified in Part 1 of the aircraft rating included in the license, when the aeroplane is engaged in a flight for the purpose of public transport or aerial work:
Provided that —
 - (i) he shall not, unless his license includes an Instrument Rating (Aeroplanes), fly such an aero plane on any scheduled journey;
 - (ii) he shall not fly such an aeroplane at night unless an Instrument Rating (Aeroplanes) is included in his license or he has within the immediately preceding 12 months carried out as pilot-in-command not less than 6 take-offs and 6 landings at a time when the depression of the centre of the sun is not less than 12 degrees below the horizon;

- (iii) he shall not, unless his license includes an Instrument rating (Aeroplanes), fly any such aeroplane of which the maximum total weight authorized exceeds 5,700 kg on any flight for the purpose of public transport except a flight beginning and ending at the same aerodrome and not extending beyond 25 nautical miles from that aerodrome;
- (b) Co-pilot of any aeroplane of a type specified in Part I and II of such aircraft rating when the aeroplane is engaged in a flight for the purpose of public transport or aerial work.

Airline Transport Pilot License (Aeroplanes)

- 10 In addition to the privileges given above for the Commercial Pilot's License (Aeroplanes) which includes an Instrument Rating (Aeroplanes) the holder of an Airline Transport Pilot License shall be entitled to fly as —
- (a) pilot-in-command of any aeroplane of a type specified in Part I of the aircraft rating included in the license when the aeroplane is engaged in a flight for the purpose of public transport or aerial work
 - (b) Co-pilot of any aeroplane of a type specified in Part I or II of such aircraft rating when the aeroplane is engaged in a flight for the purpose of public transport or aerial work.

Commercial Pilot License (Helicopters)

- 11 In addition to the privileges given for the Private Pilot's License (Helicopters) which includes a night rating (helicopters), the holder of a Commercial Pilot License shall be entitled to fly as
- (a) pilot-in-command of any helicopter certificated for single pilot operation and which is of a type specified in Part I of the aircraft rating included in the license when the helicopter is engaged in a flight for any purpose whatsoever: Provided that —
 - (i) He shall not, unless his license includes an Instrument Rating (helicopters) fly such a helicopter on any scheduled journey or on any flight for the purpose of public transport in Instrument Meteorological Conditions;
 - (ii) he shall not fly such a helicopter at night unless his license includes an Instrument Rating (Helicopters) or he has within the immediately preceding 12 months carried out as pilot-in-command not less than 5 flights, each consisting of a takeoff, a transition from hover to forward flight, a climb to at least 500 feet and a landing, at a time when the depression of the centre of the sun is not less than 12 degrees below the horizon;
 - (b) Co-pilot of any helicopter required to be operated with a co-pilot of a type specified in Part I or Part II of such aircraft rating for purposes whatsoever.

Airline Transport Pilot License (Helicopters)

- 12 In addition to the privileges given above for the Commercial Pilot's License (Helicopters) the holder of the license shall be entitled to fly as —
- (a) pilot-in-command of any helicopter of a type specified in Part I of the aircraft rating included in the license when the aircraft is engaged on a flight for any purpose whatsoever.
 - (b) Co-pilot of any helicopter required to be operated with a co-pilot of a type specified in Part I or Part II of such aircraft rating for any purpose whatsoever.

Instrument Rating (Aeroplanes)

- 13 An Instrument Rating (Aeroplanes) shall entitle the holder of the license to act as pilot-in-command or co-pilot of an aero plane flying in controlled airspace in circumstances which require compliance with the Instrument Flight Rules.

Instrument Rating (Helicopters)

- 14 An Instrument Rating (Helicopters) shall entitle the holder of the license to act as pilot-in-command of a helicopter flying in controlled airspace in circumstances which require compliance with the Instrument Flight Rules.

Flying Instructor's rating

- 15 Flying Instructor's Rating shall entitle the holder of the license to give instruction in flying aircraft of such types as may be specified in the rating for that purpose. The maximum period of validity of a Flying Instructor's Rating shall be 24 months.

Assistant Flying Instructor's rating

- 16 Assistant Flying Instructor's Rating shall entitle the holder of the license to give instruction in flying aircraft of such types as may be specified in the rating for that purpose: Provided that —
- (a) such instruction shall only be given under the supervision of a person present during the take-off and landing at the aerodrome at which the instruction is to begin and end and holding a pilot's license endorsed with a flying instructor's rating; and
 - (b) an assistant flying instructor's rating shall not entitle the holder of the license to give directions to the person undergoing instruction in respect of the performance by that person of —
 - (i) his first solo flight; or
 - (ii) his first solo flight by night; or
 - (iii) his first solo cross-country flight otherwise than by night; or
 - (iv) his first solo cross-country flight by night.

The maximum period of validity of an Assistant Flying Instructor's Rating shall be 12 months.

CHAPTER 2
GROUND EXAMINATION REQUIREMENT
COMMERCIAL PILOT & AIRLINE TRANSPORT PILOTS' LICENCES

1. EXAMINATION PAPER CLASSIFICATION

1.1 In order to qualify for a Professional Flight Crew Licence and Instrument Ratings which comprises of:

- (a) Commercial Pilot License Aeroplane CPL(A),
- (b) Commercial Pilot License Helicopter CPL(H),
- (c) Airlines Transport Pilot License Aeroplane ATPL(A) and
- (d) Airlines Transport Pilot License Helicopter ATPL(H);

a candidate is required to pass a series of ground examinations. These ground examinations are classified into two groups:

Group 1 – Specific Paper and

Group 2 – Nav and Tech Paper. All candidates will be advised at the time of initial application as to which paper they need to pass to qualify for a particular licence.

1.2 Group 1: Specific Paper

- (a) Airlaw 1
- (b) Airlaw 2
- (c) Aircraft Type Technical (in appropriate class/category)

1.3 Group 2: Nav and Tech Paper

- a. Air Law(AL)
- b. Airframe and System (AFS)
- c. Instrumentation (INS)
- d. Mass & Balance (MB)
- e. Performance A (PER)
- f. Flight Planning & Monitoring (FP)
- g. Human Performance & Limitations(HPL)
- h. Meteorology (MET)
- i. General Navigation (G. Nav)
- j. Radio Navigation (R. Nav)
- k. Operational Procedure (OP)
- l. Principles of Flight (POF)
- m. Communication (VFR Com)
- n. Communication (IFR Com)

2. EXAMINATION PAPERS BASED ON THE LICENSE APPLIED (REFER TABLE 1)

- 2.1 Commercial Pilot License Aeroplane with Instrument Rating CPL/IR (A)– Frozen ATPL (A)
- 2.2 Commercial Pilot License Aeroplane CPL (A)
- 2.3 Commercial Pilot License Helicopter with Instrument Rating CPL/IR (H) – Frozen ATPL (H)
- 2.4 Commercial Pilot License Helicopter CPL (H)

Note 1:

- (a) Candidate shall sit and pass Aircraft Type Technical before Flight Test (Certificate of Test [C of T]) and License Endorsement can be made.
- (b) Candidate shall pass Radio Telephony Practical (RTP) before commencing solo flight during Private Pilot License (PPL) stage of flying. VFR Communication exam may be taken later during CPL flying stage (together with IFR Communication for CPL/IR course) but the subject shall be taught earlier during PPL stage. Registration for VFR Communication shall include payment for RTP.

3. EXAMINATION SEQUENCE (REFER TABLE 2)

- 3.1 A candidate shall pass all the subjects within the stipulated period of time to be eligible for the issuance of the professional license.
- 3.2 A candidate undergoing integrated flight training at an Approved Training Organization (AFTO) is required to follow the approved schedule (Sequence 1 or 2) for the examination which the AFTO needs to adhere to complete the training within the timeframe. AFTO may decide to have local DCA papers in any of the phases of the Sequence chosen. However, once a particular sequence is adopted, it shall become the AFTO standards.
- 3.3 A candidate who is taking the examination privately and not undergoing an AFTO course, shall have to sit those papers in three phases (Sequence 1).

4. EXAMINATION RULES ON PASSING AND RE-SITTING

- 4.1 A candidate undergoing integrated flight training at an AFTO will have to complete and pass all the ground examinations within the maximum period of twenty (20) months from the day the candidate starts his course, failing which he/she is deemed to have failed in his/her flying course.
- 4.2 An individual candidate who is not undergoing integrated flight training in any AFTO or undergoing an abridged course, he/she will have to complete and pass all the ground examinations within a maximum period of twelve (12) months from the date the candidate sit for the first exam in Phase One, failing which he/she is deemed to have failed the cycle. He/she shall have to re-sit all the papers after a grace period of three (3) months at the expiry of twelve (12) months period.
- 4.3 A candidate shall follow the examination sequence as laid down in Table 2 and shall sit for all the appropriate papers in that phase. However papers on Phase Two shall ALL be taken for the first time. Candidate must pass at least one (1) of the papers in Phase Two to be eligible to re-sit the failed papers in that phase individually. Other- wise the candidate shall have to repeat the whole papers in Phase Two again as if he/ she sit for the first time. This does NOT apply to those papers in Phase One and Phase Three, which a candidate may opt to sit them individually. But the timeframe and number of attempts to pass all the papers remain the same.
- 4.4 Maximum number of attempts on each paper shall be four (4) that is one (1) plus three (3) re-sits. If any of the papers have been taken four (4) times, a grace period of six (6) months shall be applied from the date of the last exam which subject he/she has failed, after which period he/she may register for that particular paper.

4.5 All individual papers have a passing mark of 75 %. Radio Telephony Practical will be assessed as Pass or Fail.

5. SYLLABUS

The Syllabus for each of the above examination papers are in the Appendix A. Applicants shall check with DCA on any changes to the syllabus prior to applying to sit for any examination papers.

6. UPGRADE CPL TO ATPL

6.1 Candidates who do not go for CPL/IR (Frozen ATPL) course in any AFTO may opt for CPL license initially. In order for them to upgrade their license to ATPL, they shall be required to sit for:

a. ATPL (A)

- i. Radio Navigation
- ii. Instrumentation
- iii. Flight Planning and Monitoring
- iv. IFR Communication
- v. Performance
- vi. Mass and Balance

b. ATPL (H)

- i. Radio Navigation
- ii. Instrumentation
- iii. Flight Planning and Monitoring
- iv. IFR Communication
- v. Mass and Balance

TABLE 1-EXAMINATION SEQUENCE

		SEQUENCE 1	SEQUENCE 1
1	PHASE ONE	AIRLAW 1	AIRLAW 1
2		AIRLAW 2	AIRLAW 2
3		HPL	HPL
4		POF	POF
5		AIRCRAFT GEN KNOELEDGE 1/2/3	AIRCRAFT GEN KNOELEDGE 1/2/3
6		VFR COMM	VFR COMM
7		IFR COMM (A)	IFR COMM (A)
1	PHASE TWO	GEN NAVIGATION	GEN NAVIGATION
2		RADIO NAVIGATION (A)	RADIO NAVIGATION (A)
3		METEOROLOGY	METEOROLOGY
4		FLT. PLANNING & MONITORING(A)	FLT.PLANNING & MONITORING(A)
5		FLT PERFORMANCE & PLANNING	FLT PERFORMANCE & PLANNING
6		AIRCRAFT GEN KNOWLEDGE 4	AIRCRAFT GEN KNOWLEDGE 4
7			MASS AND BALANCE (A)
8			OPERATIONAL PROCEDURES
9			TYPE TECHNICAL
1	PHASE THREE	PERFORMANCE (A)	
2		MASS AND BALANCE (A)	
3		OPERATIONAL PROCEDURES	
4		TYPE TECHNICAL	

AIRCRAFT GENERAL KNOWLEDGE 1 AIRFRAME AND SYSTEMS
 AIRCRAFT GENERAL KNOWLEDGE 2 ELECTRIC AND ELECTRONICS
 AIRCRAFT GENERAL KNOWLEDGE 3 POWER PLANTS
 AIRCRAFT GENERAL KNOWLEDGE 4 INSTRUMENTATIONS

NOTE C - CPL ONLY
 A - ATPL ONLY

TABLE 2- EXAMINATION PAPERS BASED ON LICENCE APPLIED

	SUBJECT	TYPE OF PROFESSIONAL LICENSE			
		AEROPLANE		HELICOPTER	
		ATPL	CPL	ATPL	CPL
SPECIFIC (GROUP 1)					
1	AIRLAW 1	✓	✓	✓	✓
2	AIRLAW 2	✓	✓	✓	✓
3	HUMAN PERFORMANCE AND LIMITATIONS (HPL)	✓	✓	✓	✓
4	TYPE TECHNICAL (appropriate class/category)	✓	✓	✓	✓
NAV & TECH PAPERS (GROUP 2)					
1	PRINCIPLE OF FLIGHT (AEROPLANE OR HELICOPTER)	✓	✓	✓	✓
2	AIRFRAMES	✓		✓	
3	AIRCRAFT GENERAL KNOWLEDGE		✓		✓
4	VFR COMMUNICATIONS	✓	✓	✓	✓
5	IFR COMMUNICATIONS	✓		✓	
6	GENERAL NAVIGATION	✓	✓	✓	✓
7	RADIO NAVIGATION	✓		✓	
8	METEOROLOGY	✓	✓	✓	✓
9	INSTRUMENTATION	✓		✓	
10	FLIGHT PLANNING AND MONITORING	✓		✓	
11	FLIGHT PERFORMANCE AND PLANNING		✓		✓
12	PERFORMANCE	✓			
13	MASS AND BALANCE	✓		✓	
14	OPERATIONAL PROCEDURES	✓	✓	✓	✓
	TOTAL PAPERS	16	11	15	11

CHAPTER 3

FLYING EXPERIENCE REQUIREMENTS

COMMERCIAL PILOT LICENCE (AEROPLANES)

- 1 An applicant for a Commercial Pilot Licence (Aeroplanes) (CPL(A)) must produce evidence that:
 - (a) he has successfully completed a course of flight and ground training approved by DCA; or
 - (b) he is in current flying practice qualified and serving as a pilot in the Myanmar Air Force(MAF) with at least 200 hours as pilot of aeroplanes meeting the full detailed requirements set out in paragraph 2 below; or
 - (c) he meets in full the detailed experience requirements set out in paragraph 5 below except that the total hours as pilot of aeroplanes exceeds 200 hours.
- 2 The minimum flying experience required for grant of a CPL(A) in the case of a graduate from an approved course of training is 150 hours, or in the case of an applicant not from an approved course of training is 200 hours, which should include not less than:
 - (a) 100 hours as pilot-in-command (PIC), or 150 hours in the case of a course of approve training , of which not less than 20 hours must be cross-country or overseas flying including one flight of at least 300 nautical miles, in the course of which the aeroplane landed and came to rest at not less than two intermediate aerodromes. This route must be planned and flown in the course of a single day;
 - (b) 10 hours of night flying as PIC or pilot under instruction of which not less than 5 hours must be as pilot-in-command. This night flying experience must include not less than 10 take-offs and 10 landings without assistance.
 - (c) 10 hours of instrument flying instruction of which not more than 5 hours may be instrument ground time.

COMMERCIAL PILOT LICENCE (AEROPLANES) WITH INSTRUMENT RATING

- 3 The minimum flying experience required for grant of a CPL/IR (Aeroplanes) for a graduate from an approved course of CPL/IR training is 200 hours as pilot of aeroplanes. The breakdown of the 200 hours must include that as specified in paragraph 2 above and the Instrument Rating (Aeroplanes) specified in Chapter 6. Appropriate flight time may be counted toward satisfying both sets of requirements.
- 4 Flight time in microlight aeroplanes, or in self-launching motor gliders, will not be counted toward satisfying any of the requirements specified in paragraphs 2 or 3 above.
- 5 The minimum flying experience for a pilot who has not completed an approved course of full time flight and ground training is 700 hours as pilot of aeroplanes. This must include meeting the particular requirements specified below. Each of these requirements must be met in full but, except where stated otherwise, hours may be credited, where appropriate, to more than one requirement:
 - (a) 200 hours as PIC of aeroplanes of which up to a maximum of 100 hours may be as co pilot acting as pilot-in-command under supervision PIC U/S.
 - (b) 50 hours of cross-country or oversea flying as PIC or PIC U/S of aeroplanes or helicopters, of which not less than 35 hours must be as PIC of aeroplanes, including a route of at least 300 nautical miles, in the course of which the aeroplane or helicopter landed and came to rest at not less than two intermediate and aerodromes. This route must be planned and flown in the course of a single day. At least 10 of the 50 hours must be as PIC of aeroplanes by night or by sole reference to instruments. Any instrument flight time counted towards satisfying this requirement may not also be counted towards satisfying that specified in paragraph 5(d).

- (c) 10 hours of night flying as specified in paragraph 2(b) above.
- (d) 40 hours of flying as pilot by sole reference to instruments, of which not less than 20 hours must be a pilot of aeroplanes. The remainder may be as a pilot of aeroplanes or on an approved simulator. The instrument flying in aeroplanes may be in actual or simulated conditions.
- (e) The remainder of the 700 hours of experience required may comprise flight time in aeroplanes in any of the following capacities
 - (i) as PIC, counted in full.
 - (ii) as pilot-under-instruction, counted in full.
 - (iii) as co-pilot acting as PIC U/S, counted in full.
 - (iv) as co-pilot, counted at half rate.
- (f) Flight time in microlight aeroplanes, or in self-launching motor gliders, will not be counted towards satisfying the above requirements.

AIRLINE TRANSPORT PILOT LICENCE (AEROPLANES)

The minimum flying experience required for grant of an ATPL(A) is 1500 hours as pilot of aeroplanes which shall meet the requirements as specified below. Each of these requirements must be met in full but, except where stated otherwise, hours may be credited, where appropriate towards to more than one requirement.

- (a) 250 hours as pilot-in-command PIC of aeroplanes of which up to a maximum of 150 hours may be as co-pilot acting as pilot-in-command under supervision (P1 U/S).
- (b) 200 hours of cross-country or oversea flying of which not less than 100 hours as PIC or P1 U/S on aeroplanes, of which not less than 35 hours must be as P1C hours. This must include a flight of at least 300 nautical miles acting as PIC, in the course of which the aeroplane landed and came to rest at not less than 2 intermediate aerodromes. This route must be planned and flown in a single day.
- (c) 100 hours of night flying in aeroplanes as PIC or P1 U/S or as co-pilot, of which not less than 25 hours must be on cross-country or oversea flying as PIC or P1 U/S, including two flights as PIC terminating at an aerodrome not less than 65 nautical miles from the point of departure. The holder of a valid CPL(H) or ATPL(H) may be exempted from the cross-country requirement provided that he can produce evidence of having completed 2 such flights as PIC of helicopters. This night flying must include at least 5 hours and 10 take-offs and 10 landings as PIC;
- (d) 75 hours flying as pilot by sole reference to instruments of which not more than 30 hours may be instrument ground time.
- (e) The remainder of the 1500 hours experience required may comprise flight time on flying machines in any of the following capacities:
 - (i) as PIC counted in full;
 - (ii) as pilot-under-instruction, counted in full;
 - (iii) as P1 U/S, counted in full;
 - (iv) as co-pilot, counted at half rate.
 - (v) Flight time in microlight aeroplanes, or in self-launching motor gliders, will not be counted towards satisfying the above requirements

COMMERCIAL PILOT LICENCE (HELICOPTERS)

- 7 An applicant for a Commercial Pilot Licence (Helicopters) [CPL(H)] must produce evidence that:
- (a) he has successfully completed a course of flight and ground training for the licence approved by DCA; or
 - (b) he is in current flying practice as a qualified and serving pilot with Myanmar Air Force with at least 200 hours of experience as pilot of helicopters which must meet in full the detailed experience requirements specified in para 8(a) to 8(c) below; or
 - (c) he has a minimum flying experience of 200 hours as PIC of helicopter and in addition meets in full the detailed experience requirements in paragraph 8 below.
- 8 The minimum flying experience required for grant of a CPL(H) in the case of a graduate from an approved course of training is 150 hours as pilot-in-command (PIC) or pilot-under-instruction on helicopters, or 200 hours in the case of an applicant not from an approved course of training . The helicopter flying must include not less than 35 hours as PIC, which may include any of the pilot-in-command time specified below:
- (a) 10 hours cross-country or oversea flying as PIC, which must include a flight in the course of which landing at 2 different points shall be made.
 - (b) 10 hours instruction in instrument flying of which not more than 5 hours may be instrument ground time.
 - (c) 5 hours of night flying which must include not less than 5 take-offs and 5 landing patterns as PIC.
- 9 Credit on experience as a pilot under instruction in an approved synthetic flight trainer shall be limited to a maximum of 10 hours.

AIRLINE TRANSPORT PILOT LICENCE (HELICOPTERS)

- 10 An applicant for an Airline Transport Pilot Licence (Helicopters) must produce evidence of having completed a total of at least 1000 hours as a pilot of helicopters.
- 11 The 1000 hours must meet the breakdown as specified below:
- (a) 250 hours, either as pilot-in-command, or made up by not less than 100 hours as pilot-in-command and the necessary additional flight time as co-pilot performing, under the supervision of the pilot-in-command, the duties and functions of a pilot-in-command, provided that the method of supervision employed is acceptable to the DCA.
 - (b) 200 hours of cross-country flight time, of which not less than 100 hours shall be as pilot-in-command or as co-pilot performing, under the supervision of the pilot-in-command, the duties and functions of a pilot-in-command, provided that the method of supervision employed is acceptable to the DCA.
 - (c) 30 hours of instrument time, of which not more than 10 hours may be instrument ground time.
 - (d) 50 hours of night flight as pilot-in-command or as co-pilot.
- 12 Credit on experience as a pilot under instruction in an approved synthetic flight trainer shall be limited to a maximum of 100 hours of which not more than 25 hours shall have been acquired in a flight procedure trainer or a basic instrument flight trainer.
- 13 The remainder of the 1000 hours experience required may comprise flight time in aeroplanes in any of the following capacities:
- (a) PIC, counted in full.
 - (b) as pilot under instruction, counted in full.
 - (c) as P1 U/S, counted in full.

(d) as co-pilot, counted at half rate.

FLIGHT INSTRUCTION AND SKILLS REQUIREMENT

14 The flight instructions and skills as spelt in Appendix B must be met prior to the issue of a CPL or ATPL for Aeroplanes or Helicopters.

CHAPTER 4

THE GENERAL FLIGHT TEST

CONDUCT OF THE TEST – AEROPLANES (CPL / ATPL)

- 1 Applicants for a professional pilot's licence will be required to pass a General Flight Test (GFT) conducted by DCA. The GFT should be carried out in an aircraft. The test comprises an assessment of the applicant's preparation for flight and pre take-off procedures and three flight sections as follows:
 - Section 1 : Cross-country flight
 - Section 2 : Basic aircraft handling
 - Section 3 : Instrument flying
- 2 The aim of the test is to ensure the applicant has demonstrated the ability to perform as pilot-in-command of an aeroplane, the procedures and manoeuvres with degree of competency appropriate to the privileges granted to the holder of a professional pilot licence – aeroplane, and to:
 - (a) operate the aeroplane within its limitations.
 - (b) complete all manoeuvres with smoothness and accuracy.
 - (c) exercise good judgement and airmanship.
 - (d) apply aeronautical knowledge.
 - (e) maintain control of the aeroplane at all times in a manner such that successful outcome of a procedure or manoeuvre is never seriously in doubt.
- 3 In the aeroplane GFT, Sections 1, 2 and 3 of the test are normally completed in the course of one flight. At some suitable stage in Section 1 of the cross-country flight, the applicant will be asked to carry out certain of the basic aircraft handling exercises from Section 2 and the instrument flying exercises from Section 3. On completion of these exercises, the cross-country section will resume and the remaining basic handling exercises associated with circuits, landings and go-around procedures will be completed on return to base. The cross-country section normally takes about an hour, the basic handling section about 30 minutes and the instrument flying section about 15 minutes, the whole test lasting about one hour and 45 minutes. The CPL GFT may be conducted in a single-engine or a multi-engine aeroplane. In the case of the issue of an ATPL, the flight test must be carried out in a multi-engine aircraft required to be operated with a co-pilot.

Note : This flight will be carried out in an aircraft type which, for type rating purposes, is in the same group as the type in which the candidate will be taking the flight test.

FLIGHT TEST PASS CONDITIONS

- 4 An applicant who fails one section of the test will be required to take only that section again. If he fails more than one section he will be required to take all three sections again.
- 5 A failure to pass any of Sections 1, 2 or 3 within three attempts will invalidate any passes which may have been gained in the three sections. Before another attempt can be made at any section of the test, the applicant will be required to undertake such further flight training as the DCA may prescribe and be certified by a person authorized by DCA that the training has been satisfactorily completed and that, in the judgement of the signatory, the applicant is fully ready to take the GFT again.

GENERAL FLIGHT TEST RESULTS: PERIOD OF VALIDITY

- 6 Except where the applicant has been given an exemption which still applies, a valid pass in all three sections of the GFT must be obtained within the 21 days immediately preceding the date of receipt in the DCA of the licence application.

- 7 An exception may be made to this in the case of potential applicants for a licence who are undergoing an approved course of full time training where, with DCA' agreement, different sections of the GFT may be completed at appropriate stages in the course.

FLIGHT TEST ARRANGEMENTS

- 8 Applicants undergoing an approved course of training will normally be offered for the General Flight Test under arrangements agreed with the DCA by the flying training organisation (FTO) conducting the course. The FTO concerned will also normally be responsible for providing an aircraft acceptable to DCA for the conduct of the test.
- 9 Other applicants will be required to make their own arrangements for the test with the DCA, and to provide a suitable aircraft for the test. Such aircraft must be maintained and equipped to DCA' requirements and be approved for the conduct of the test.
- 10 Payment of the statutory fee for the test must be made before any test.

COMBINED GFT/IR TEST

- 11 For students who have completed an approved course of training for the CPL/IR (Aeroplanes), the General Flight Test may be combined with the Instrument Rating Flight Test. This combined GFT/IR test is conducted in accordance to a syllabus approved by DCA and carried out by the FTO. The students will be given all the information they need concerning the test by the FTO which carries out the training.

EXEMPTION FROM THE GENERAL FLIGHT TEST - AEROPLANES

- 12 Exemption from having to take part or all of the GFT's sections may be given as follows to:
- (a) **Holders of a Myanmar PPL(A) with Instrument Rating (Aeroplanes)**
The holder of a Myanmar PPL(A) with a valid Instrument Rating will not normally be required to take Section 3 of the GFT.
 - (b) **MAF Pilots**
A pilot qualified in MAF who is in current flying practice may be exempted from certain Sections of GFT, as determined by DCA on a case by case basis.

NON-MYANMAR PROFESSIONAL PILOTS

- 13 Holders of a valid CPL(A) or ATPL(A) issued by another ICAO Contracting State who meet the relevant flying experience requirements as specified by DCA and are in regular flying practice exercising the privileges of their professional licences may be exempted from having to take Sections 1, 2 and 3 of the GFT.
- 14 Every candidate seeking to convert a foreign licence will be required to pass a flight test conducted by DCA. A candidate who does not successfully complete an Instrument Rating test in Myanmar prior to his licence application will be required to undergo part or all of the GFT, notwithstanding his eligibility for any exemption as outlined above.

HOLDERS OF CPL(H), ATPL(H) - APPLYING FOR A CPL(A) OR ATPL(A)

- 15 Holders of a valid Myanmar CPL(H) or ATPL(H) will normally be exempted from having to take Section 1 of the GFT for the issue of a CPL(A).
- 16 Where the applicant for an ATPL(A) who does not hold a Myanmar CPL(A), the General Flight Test (GFT) requirements for grant of the licence, and the grounds upon which exemption may be given from having to take part or all of the test, are the same as for the CPL(A).

- 17 The holder of a valid Myanmar CPL(A) will not normally be required to take the General Flight Test for grant of an ATPL(A).

THE GENERAL FLIGHT TEST - CPL(H)

- 18 Unless an exemption has been granted under paragraph 24 below, an applicant for a CPL(H) will be required to pass a General Flight Test (GFT) conducted by DCA. The test comprises:

Section 1 : Cross-country flight
Section 2 : Basic aircraft handling
Section 3 : Instrument Flying

- 19 The first three sections of the test are conducted by day in three separate flights which normally follow on sequentially and may be conducted in either single -engine or multi-engine helicopters. The cross-country and basic aircraft handling sections each normally takes about an hour and the instrument flying section about 45 minutes.

- 20 If the GFT is conducted in a single-engine helicopter, Section 2 will be conducted at more than 90% of maximum landing weight.

EXEMPTION FROM THE GFT

- 21 Exemption from having to take, parts or all of the GFT may be given as follows to:

(a) **MAF pilots**

A pilot qualified on helicopters in MAF who is in current flying practice as first pilot and has not less than 200 hours experience of military flying machines including not less than 100 hours as pilot of helicopters may be exempted from having to take Sections 1, 2 and 3 of the GFT.

(b) **Non-Myanmar professional helicopter pilots**

Holders of a valid CPL(H) or ATPL(H) issued by another ICAO Contracting State who meet the experience requirements and are in regular flying practice exercising the privileges of their professional licence may normally be exempted from having to take Sections 1, 2 and 3 of the GFT.

Every candidate seeking to convert a foreign licence will be required to pass a flight test with DCA. A candidate who did not successfully complete an Instrument Rating Test with DCA for the grant of a Myanmar Licence will be required to undergo some or all sections of the GFTs. This is notwithstanding for any exemption that might have been granted earlier.

HOLDERS OF CPL(A) OR ATPL(A) - APPLYING FOR A CPL(H) OR ATPL(H)

- 22 Holders of a valid CPL(A) or ATPL(A) will normally be exempted from having to take Section 1 of the GFT.

THE GENERAL FLIGHT TEST - ATPL(H)

- 23 The holder of a valid Myanmar CPL(H) will not normally be required to take the GFT for grant of an ATPL(H).

- 24 Where the applicant for an ATPL(H) does not hold a Myanmar CPL(H), the GFT requirements for grant of the licence, and the grounds upon which exemption may be given from having to take part or all of the test, are the same as for the CPL(H).

CHAPTER 5

THE AIRCRAFT RATING REQUIREMENTS

INTRODUCTION

- 1 The privileges of a professional pilot licence may only be exercised in an aircraft type as specified in the Aircraft Rating of the licence in conjunction with a valid Certificate of Test or a valid Certificate of Experience. The private pilot privileges of the licence may be exercised in the aircraft type endorsed in the Aircraft Rating - Private Pilot's Privileges.

Note : A Class rating is established for aeroplanes certificated for single-pilot operations and shall comprise :

- (i) single-engine, land
- (ii) single-engine, sea
- (iii) multi-engine, land
- (iv) multi-engine, sea

- 2 A professional pilot licence will not be issued unless the applicant has qualified for inclusion in the Aircraft Rating of the licence, either in Part 1 (entitling the holder to fly as PIC or as co-pilot) or in Part 2 (entitling the holder to fly only as co-pilot), of at least one aircraft type.

- 3 Aircraft ratings would only be endorsed on a Myanmar licence in respect of aircraft types which are already on the Myanmar register with a valid Certificate of Airworthiness in force.

- 4 In the case of the issue of an ATPL the applicant must qualify for inclusion, in Part 1 of an Aircraft Rating of a multi-engine aeroplane required to be operated with a co-pilot.

- 5 Entries in Part 2 (co-pilot only entitlement) of the Aircraft Rating will be made in respect only of aircraft which are required to be flown by a flight crew of at least two pilots.

- 6 To qualify for inclusion of the first aircraft type in the Aircraft Rating for the issue of a professional pilot licence, an applicant would be required to:

- (a) pass the Aircraft Technical Group of Papers including the Aircraft Type examination of the aircraft type to be endorsed on the licence and in addition, in the case of an aeroplane, the Performance A examination;
- (b) pass an Aircraft Rating flight test on the type to be endorsed on the licence

Note: The Aircraft Examination Type examination must be passed for the same variant of the aircraft on which the aircraft rating flight test is conducted. Once an aircraft rating is issued, it entitles the holder to exercise privileges on other variants of the same aircraft type except in certain cases.

- 7 The qualifying requirements for the inclusion on further types in the Aircraft Rating subsequent to the first are given in paragraph 18 below.

THE AIRCRAFT RATING FLIGHT TEST

- 8 Aircraft Rating flight tests must be conducted by Flight Operation Inspector or examiners authorized by the DCA to conduct such tests and to sign the Certificate of Test (C of T) in respect of the Aircraft Rating.

- 9 The aircraft rating test requires the applicant to demonstrate his competence in carrying out normal and emergency manoeuvres and drills appropriate to the particular aircraft type. The contents of the test are specified in the application form for the inclusion of an aircraft type in the Aircraft Rating. Certain of the items detailed in forms are enclosed in a heavily outlined 'box'. These are the items which must be completed in a test in relation to a C of T.

- 10 In aircraft which are required to be flown by two pilots the test may be conducted with the applicant acting either in the capacity of pilot-in-command for an entry in Part 1 of the Aircraft Rating, or in the capacity of co-pilot for an entry in Part II
- 11 In some cases, certain of the manoeuvres and drills included in the form may be conducted in an aircraft flight simulator which must be approved for the purpose by the DCA. The simulator approval document specifies the manoeuvres and drills for which it is approved. Access to such simulators can normally only be obtained through the operators to whom the simulator approval has been given.
- 12 On satisfactory completion of the flight test, the Flight Examiner will certify to that effect against each of the manoeuvres and drills specified in the form where any of the items are carried out in an approved simulator. The Flight Examiner who conducts the simulator test will certify against those items.
- 13 On application for grant of a professional pilot licence, the applicant should forward his licence application together with the completed CA form to the DCA. Provided that it is satisfactory and that other licensing requirements have been met, including the ground examination requirements in respect of the Aircraft Rating, DCA will issue the licence with the type of aircraft upon which the flight test and associated ground examinations were passed entered in the Aircraft Rating, either in Part I and Part II, as appropriate. The Aircraft Rating C of T in respect of that type will be completed by the DCA with a date effective from the date on which the 'boxed' items in the form were satisfactorily completed.
- 14 The procedure for inclusion of a further type in the Aircraft Rating subsequent on the first is similar to paragraph 13.
- 15 Each of the items in the CA Form must be satisfactorily completed within the 21 days immediately preceding the date of receipt in the DCA of the licence application. The period for completion of the ground examination requirements is explained in Chapter 3.

UPGRADING OF CO-PILOT PRIVILEGES TO PILOT-IN-COMMAND PRIVILEGES

- 16 Where the holder of a licence which includes an aircraft type in Part II of the Aircraft Rating wishes to have that type included in Part 1, he will be required to pass the flight test specified for Part 1 in the CA Form.
- 17 On successful completion of the test he should forward the CA Form completed and signed by the Flight Examiner who conducted the test, together with his licence, to the DCA for endorsement of the type in Part 1 of the Aircraft Rating. The DCA will, at the same time, complete the C of T effective from the date on which all the 'boxed' items for Part 1 of the test in the CA Form were satisfactorily completed. All of the tests items must be completed within a period of 21 days.

INCLUSION OF FURTHER TYPES IN THE AIRCRAFT RATING

- 18 To include further aircraft types included in the Aircraft Rating of the licence, the licence holder must:
- (a) pass the Aircraft Type examination for the type of aircraft concerned;
 - (b) pass the Aircraft Rating flight test for the type concerned.
- 19 On satisfactory completion of the ground examinations and the flight test, the applicant should forward to the DCA the completed CA Form, together with his licence for inclusion of further type in the Aircraft Rating. The DCA will endorse the type in the rating and complete the C of T in respect of that type, effective from the date on which the 'boxed' items in the CA Form were satisfactorily completed.

- 20 Prospective applicants for inclusion of a multi-engine aircraft in the Aircraft Rating, where no such type has been included before, should note that instruction on the aircraft type for purpose of its inclusion in the rating may only be given to a person who holds a flying instructor's or assistant flying instructor's rating and who is qualified to give instruction on the type.

CERTIFICATE OF TEST (C OF T) AND CERTIFICATE OF EXPERIENCE (C OF E)

- 21 The privileges of a professional pilot licence may only be exercised in aircraft specified in the Aircraft Rating and in respect of which the licence also contain a valid C of T or C of E. The purpose and period for which a C of T or C of E is valid is presented by cases which may be summarised in general terms as follows:

Case A *Carriage of passenger in a flight in respect of which the holder of the licence receive remuneration, other than a public transport flight*

A C of T is required in respect of the type of aircraft in which the flight is made and the capacity (PIC or co-pilot) in which the licence holder is acting. The period of validity of a C of T for this purpose is 12 months. The applicant must also produce evidence that he has, in the preceding six months, acquired not less than 15 hours experience as PIC or co-pilot as appropriate to the capacity in which the licence holder is acting.

Case B *Public transport flight*

A C of T is required in respect of the type of aircraft in which the flight is made and the capacity in which the licence holder is acting. The period of validity of C of T for this purpose is six months, but where two C of Ts are held for the same type of aircraft and pilot capacity, the dates of effect of which are separated by not less than four months, the period of validity is deemed to be 12 months from the date of effect of the earlier certificate. The applicant must also meet the recency requirement as spelt out in the Second Schedule of the MAR in order to exercise the privileges of his licence.

Case C *Aerial work flight*

A C of T is required in respect of the type of aircraft in which the flight is made and the capacity in which the licence holder is acting is required, the period of validity of a C of T for this purpose is six months, but where two C of Ts are held for the same type of aircraft and pilot capacity, the dates of effect of which are separated by not less than four months, the period of validity is deemed to be 12 months from the date of effect of the earlier certificate.

A C of E may be issued if in the preceding six months not less than fifteen hours experience as PIC or co-pilot as appropriate to the capacity in which the licence holder is acting, in the type of aircraft in which the flight is made.

Note : An expired C of E will not be revalidated. The licence holder will be required to pass a flight test again in order to exercise the privileges of his licence.

Case D *Any flight operating within the privileges of a PPL*

A C of T is required in respect of the aircraft Class, Group and Type of which the test was carried out and in respect of the capacity in which the licence holder is acting. A C of T for a single-engine Group C type will revalidate Group A. A C of T for multi-engine Group C type will validate Groups A and B. This is provided the pilot has made at least 1 flight as PIC, one on each Group to be revalidated within the 12 months preceding the test.

Similarly, a C of T for a Group B aircraft will revalidate the Group A. This is provided he has made at least 1 flight as PIC in a Group A aeroplane within the 12 months immediately preceding the test. The period of validity of a C of T for this purpose is 12 months.

A C of E may be issued if within the preceding 12 months, at least 6 hours is flown as a pilot in an aircraft of the same Class as the rating in the licence. Of the 6 hours, a minimum of 2 hours must be of dual flying instruction under a flying instructor. Upon the completion of the dual flight(s), the instructor must certify the pilot a fit to fly as PIC in the logbook. Pilots wishing to revalidate more than one Class and Group of aeroplane must include at least 1 flight as PIC in an aeroplane of each Class and Group (or type in the case of Group C) as part or in addition of the overall minimum of 5 hours.

Note : An expired C of E will not be revalidated. The licence holder will be required to pass a flight test again in order to exercise the privileges of his licence.

Following an Aircraft Rating flight test covering all items in the CA Form for inclusion of the first or additional aircraft types in the Aircraft Rating, either in Part 1 or Part II, or for upgrading a type from Part II to Part I, the C of T will be completed by the DCA at the time of making the entry in the rating, with a date effective from the date on which the 'boxed' items were satisfactorily completed.

- 23 Subsequent tests on an aircraft already included in the rating will comprise only the 'boxed' items in the relevant CA Form. All of these items must be satisfactorily completed within a period of 21 days. On satisfactory completion of the test the C of T will be signed in respect of the aircraft type in question by the Flight Examiner who conducted the test, effective from the date on which the test was completed.

EXPIRY OF C OF T OR C OF E

- 24 Details for the revalidation of an expired C of T or C of E can be found in Chapter 9.

MANDATORY MULTI-ENGINES CONVERSION TRAINING (AEROPLANES)

- 25 The holder of a Professional Pilot Licence wishing to have a first multi-engine propeller or turbine-jet aeroplane type included in the aircraft rating of a CPL will be required to carry out mandatory multi-engine conversion training.
- 26 Training requirements may be obtained from DCA.

THE AIRCRAFT RATING REQUIREMENTS - CPL (A)

- 27 The privileges of a pilot's licence may only be exercised in aircraft specified in the Aircraft Rating and in respect of which the licence contains a valid Certificate of Test or meet the necessary recent flying experience requirement as specified in paragraph 2 of this Chapter.
- 28 CPL (A) will not be issued unless the applicant has qualified for inclusion in the Aircraft Rating of the licence either in Part I and Part II, of at least one aeroplane type. This normally requires that he pass the appropriate Aircraft Technical Group of papers (including the aircraft type) and the appropriate flight tests.

THE AIRCRAFT RATING REQUIREMENTS - ATPL (A)

- 29 The privileges of a pilot's licence may only be exercised in aircraft specified in the Aircraft Rating and in respect of which the licence contains a valid Certificate of Test and/or or meet the necessary recent

flying experience requirement as specified in paragraph 2 of this Chapter.

- 30 ATPL will not be issued unless the applicant has qualified for inclusion in the Aircraft Rating of the licence as PIC, of at least one multi-engine aeroplane type required to be operated by a co-pilot.
- 31 Where the applicant already holds a Myanmar CPL, any aeroplane types included in those licences will also be included in the ATPL without him having to take the ground examinations or the Aircraft Rating flight test for those types again. Current Certificates of Test will be transferred from the CPL to the ATPL on issue of the licence. Where current certificates are not held, the types will still be included in the ATPL but the licence privileges may not be exercised on any aeroplane concerned until the licence holder has obtained a valid certificate having, if necessary, first passed the requisite flight test. Where the applicant's CPL does not include a rating for an aeroplane of the type specified or he wishes to include any other type not included in his previous licence, it will be necessary for him to satisfy all the requirements for an additional type.
- 32 Where the applicant does not hold a Myanmar CPL, he will normally be required to:
- (a) Pass the Aircraft Technical Group of papers (including the aircraft type paper), Performance 'A' and Loading examinations relevant to the type of aeroplane to be endorsed in the licence.
 - (b) Pass an Aircraft Rating flight test on the type.

THE AIRCRAFT RATING REQUIREMENTS - CPL (H)

- 33 The privileges of a pilot's licence may only be exercised in aircraft specified in the Aircraft Rating and in respect of which the licence contains a valid Certificate of Test or Certificate of Experience where the necessary recent flying experience requirements as specified in paragraph 21 of this Chapter are met. This is in addition to the requirement of holding a valid medical certificate.
- 34 CPL (H) will not be issued unless the applicant has qualified for inclusion in the Aircraft Rating of the licence either in Part I and Part II, of at least one helicopter type. This will normally require that he pass the Aircraft Technical Group of papers including the Aircraft Type examinations relevant to the type of helicopter to be entered in the licence and that he pass an Aircraft Rating flight test on that type.

EXEMPTION FROM THE AIRCRAFT RATING FLIGHT TEST

- 35 Where the General Flight Test is conducted on a single-engine helicopter and the applicant wishes that type to be included in the Aircraft Rating of the licence, he may request that Section 2 of the GFT be regarded also as the Aircraft Rating flight test. On successful completion of the test, the form shall be forwarded to DCA together with the GFT results. The Aircraft Rating Certificate of Test will be completed by DCA in respect of that type at the time of licence issue, effective from the date on which the test was passed.
- 36 The holder of a professional pilot's licence (Helicopters) issued by another ICAO Contracting State, which includes a specific helicopter type, may have that type entered in the Aircraft Rating, Part II (co-pilot entitlement only) of the Myanmar licence without having to take an Aircraft Rating flight test, provided that:
- (a) the helicopter type is required to be flown by more than one pilot.
 - (b) the applicant is entitled under the privileges of his non-Myanmar licence to fly the helicopter type as pilot-in-command or, if he has at least 500 hours experience on the type, as co-pilot.
 - (c) the ground examination requirements have been satisfied or the applicant qualifies for exemption.; and
 - (d) evidence can be provided of experience on type during the period of five years preceding the

date of receipt in DCA of the application.

THE AIRCRAFT RATING REQUIREMENTS - ATPL (H)

- 37 The privileges of a pilot's licence may only be exercised in an aircraft type specified in the Aircraft Rating and in respect of which the licence contains a valid Certificate of Test or Certificate of Experience and meeting the necessary recent flying experience requirement as specified in paragraph 21 of this Chapter.
- 38 An ATPL (H) will not be issued unless the applicant has qualified for inclusion in the Aircraft Rating of the licence either in Part I and Part II, of at least one helicopter type.
- 39 Where the applicant already holds a Myanmar CPL (H), any helicopter types included in that licence will also be included in the ATPL (H) without him having to take the ground examinations or the Aircraft Rating flight test for those types again. Current Certificates of Test will be transferred from the CPL (H) to the ATPL (H) on issue of the licence. Where the CPL (H) does not contain any current certificates, the ATPL (H) will still be issued with Aircraft Ratings as for the CPL (H), but the licence privileges may not be exercised on any of the helicopters concerned until the licence holder has obtained a valid certificate having, if necessary, first passed the requisite flight test. Where the applicant wishes to include in the ATPL (H) a type which is not included in his CPL (H), it will be necessary for him to satisfy the requirements for an additional type.
- 40 Where the applicant does not hold a Myanmar CPL (H) he will normally be required to:
- (a) Pass the Aircraft Technical Group of paper and the Aircraft Type and Loading examination relevant to the type of helicopter to be endorsed in the licence.
 - (b) Pass an Aircraft Rating flight test on the type. Exemption may be given from this requirement under the same terms as those detailed for the CPL (H).

CHAPTER 6

THE INSTRUMENT RATING (AEROPLANES)

THE INSTRUMENT RATING PRIVILEGES

- 1 The privileges of the Instrument Rating (Aeroplanes) allow the holder to act in an aeroplane:
 - (a) on any flight as pilot-in-command (PIC) or co-pilot in controlled airspace or conditions such that the pilot cannot comply with the specified weather provisions;
 - (b) in circumstances which require compliance with Instrument Flight Rules;
 - (c) as PIC at night when passengers are carried or flying instruction is given where the specified recent night flying experience is satisfied;
 - (d) as PIC on a scheduled journey.
- 2 A CPL (A) may be issued without an Instrument Rating but its privileges will not include the privileges mentioned above in paragraph 1.
- 3 An ATPL (A) will not be issued unless the applicant has qualified for inclusion in the licence of an Instrument Rating. Should the rating at any time become invalid, the privileges of the licence will be restricted accordingly.
- 4 The flight test for the Instrument Rating (Aeroplanes) is normally conducted in a multi-engine aeroplane, other than a centre-line thrust aeroplane, as if it were being flown by a single flight crew member. This is regarded as the most demanding case and the privileges conferred by a rating gained as the result of such a test may be exercised in single -engine or multi-engine and single-crew or multi-crew aeroplanes.
- 5 An applicant for a flight test for the Instrument Rating (Aeroplanes) to be conducted in a multi-engine aeroplane, other than a centre-line thrust aeroplane, must hold a current type or group rating on multi-engine aeroplanes, or have passed the flight test (or Group B rating flight test) in the previous 6 months. The applicant must provide documentary evidence of such a qualification prior to undertaking the flight test.
- 6 At the applicant's request, the test may be conducted in:
 - (a) a single-engine aeroplane. The rating will be endorsed accordingly and its privileges may be exercised only in single-engine aeroplanes;
 - (b) a multi-crew aeroplane. The rating will be endorsed accordingly and its privileges may be exercised only in aeroplanes certificated for two pilots. The test will normally be conducted only in aeroplanes requiring two pilots when flying for the purpose of public transport in compliance with the Instrument Flight Rules.

APPROVED TRAINING

- 7 Unless qualifying for exemption as detailed in paragraph 9, persons wishing to obtain an Instrument Rating (Aeroplanes) will, before they may take the Instrument Rating flight test, be required to complete an approved course of training. This will comprise:
 - (a) for an unrestricted rating, not less than 40 hours dual instruction in instrument flying in single-engine or multi-engine aeroplanes, of which not less than 20 hours must be in multi-engine aeroplanes. The remaining experience, up to a maximum of 20 hours, may be gained in an approved flight simulator or an approved procedure trainer;
 - (b) for a rating with privileges restricted to single -engine aeroplanes, not less than 40 hours dual instruction in instrument flying. This must include not less than 20 hours in single-engine aeroplanes. The remaining experience, up to a maximum of 20 hours, may be gained in an approved flight simulator or an approved procedure trainer;

- (c) for the holder of a rating restricted to single –engine aeroplanes applying to obtain an unrestricted rating, not less than ten hours dual instruction in instrument flying in multi-engine aeroplanes.
- 8 The experience gained on an approved course of training may be counted toward satisfying the experience requirements for the ratings as specified.

EXEMPTION FROM APPROVED TRAINING

- 9 Exemption from having to undergo an approved course of training will normally be given to the following:
- (a) **Holders of a Myanmar Instrument Rating (Helicopters)**
Pilots who hold, or have held within the three years preceding the date of receipt in the DCA of the application for the Instrument Rating (Aeroplanes), a Myanmar Instrument Rating (Helicopters).
 - (b) **MAF pilots**
Qualified serving pilots in the MAF with a Green Rating who meet the experience specified in paragraph 11.

FLYING EXPERIENCE REQUIREMENTS

- 10 The normal method of recording flight time and the way in which it will be credited toward meeting the flying experience requirements is given in Appendix C.
- 11 The minimum flying experience required for grant of an Instrument Rating (Aeroplanes) is 200 hours as pilot of aeroplanes, which must include:
- (a) not less than 100 hours as PIC, of which not less than 50 hours must be cross-country flying;
 - (b) not less than 40 hours as pilot by sole reference to instruments, of which up to 20 hours may be in an approved flight simulator or approved procedure trainer.
- 12 Where a pilot holds, or has held within the three years preceding the date of receipt in the DCA of the application for the Instrument Rating (Aeroplanes), an Instrument Rating (Helicopters), the minimum experience required in aeroplanes is:
- (a) 50 hours as PIC, of which not less than 20 hours must be cross-country flying;
 - (b) 20 hours as pilot by sole reference to instruments. Up to 10 hours of this may be in an approved aeroplane simulator.
- 13 Flight time in micro light aeroplanes; will not be counted toward satisfying any of the requirements specified in paragraphs 11 and 12 above. Flight time in self-launching motor gliders will not be counted toward satisfying the minimum PIC or pilot by sole reference to instruments requirements and may only be counted toward satisfying the total experience requirements specified in paragraph 11 when the aircraft is under power.

GROUND EXAMINATION REQUIREMENTS

- 14 Persons who have passed the ground examinations for grant of a professional pilot licence, or who have been exempted from having to take them, will not normally be required to take any ground examinations for grant of an Instrument Rating.

THE INITIAL INSTRUMENT RATING FLIGHT TEST

- 15 Applicants for the grant of an Instrument Rating (Aeroplanes) will be required to pass an Instrument Rating Flight Test. The test for an unrestricted rating will be conducted in a multi-engine aeroplane having a Myanmar Certificate of Airworthiness which permits it to be flown by a single flight crew

member. The syllabus for the test comprises:

Section 1: Departure procedures

Section 2: Airways procedures

Section 3: ILS instrument approach procedures

Section 4: NDB or VOR instrument approach procedures

Note: At the conclusion of Section 3, the applicant will be asked to carry out a missed approach from decision height in the course of which and at a safe height an engine failure will be simulated. Section 4 will be conducted on asymmetric power and will terminate at minimum descent height after the applicant has leveled the aircraft and has given the Flight Examiner an estimate of the time or distance to run to the aerodrome boundary, runway threshold or the facility, as appropriate.

Sub-section A: Preliminary and external checks

Sub-section B: Holding procedures

Sub-section C: Engine failure procedures

Sub-section D: Limited Panel

- 16 The full syllabus for the test, the conditions and assumptions upon which it will be conducted and the level of acceptable performance are spelt out in Appendix E.
- 17 The test syllabus for a rating restricted to multi-crew aeroplanes is the same as that for an unrestricted rating, but there may be minor variations in the conduct of the test. This will be explained by the Flight Examiner before the test begins.
- 18 The test syllabus for a rating restricted to single-engine aeroplanes is the same as that given in paragraph 15, less Sub-section C and with no simulation of engine failure as referred to in the Note.
- 19 In the test for an unrestricted or single -engine rating, the applicant will be required to fly the aeroplane from the PIC position and to carry out the test as if he were the sole flight crew member. The Flight Examiner will, however, be the designated PIC.
- 20 In the test for a multi-crew rating, the applicant may take the test as handling pilot in either the PIC or in the co-pilot position and will be expected to call upon the other flight crew members to assist him in the conduct of the flight in accordance with the normal crew drills for that type of aeroplanes. Whether the Flight Examiner occupies the PIC or co-pilot position, he will be designated as PIC of the aeroplane. Where he does not occupy either of these position, the pilot occupying either one of the seat who is not undergoing the test will designated as PIC. He must be a person authorized by the operator of the aeroplane to act as training or check captain on the type.
- 21 The applicant, together with the remainder of the flight crew in the case of a test on a multi-crew aeroplane, will be briefed by the Flight Examiner before the test. The applicant will be responsible for ensuring that he has all equipment and documentation necessary for the planning and execution of the flight.
- 22 The route for the test flight will be chosen by the Flight Examiner. It may start and finish at the same aerodrome or may end at another aerodrome. The applicant may not decline to fly the nominated route solely because he is not familiar with it. He should be prepared to be examined along any route terminating at a suitably equipped aerodrome within 150nm of departure.

The combined GFT/IR Test

- 23 For students who have completed an abridged course of training for grant of a CPL (A) and Instrument Rating, the Instrument Rating flight test is combined with the General Flight Test. The combined GFT/IR Test is conducted to a syllabus approved by the DCA. The student will be given all the information he needs concerning the test by the FTO which carries out his training. Details are not included in this publication but may be obtained from the FTO.

INSTRUMENT RATING FLIGHT TEST: PASS CONDITIONS

- 24 Before an applicant may take the Instrument Rating flight test he must obtain a form, signed by a person authorized to sign such forms, certifying that he has satisfactorily completed any training which may have been required of him and that in the judgment of the person signing the form, he is fully ready to take the test. This requirement will apply whether or not the applicant has had to undergo an approved course of training. The form is valid for a period of 6 months from the date of signature and the first attempt to pass the test must be taken within this period of validity. If a partial pass is obtained during this period, then the form may be extended to allow the candidate to complete satisfactorily all the outstanding items within a period of 21 days from the date of first obtaining a partial pass. If the candidate fails to pass the test during this extended validity period, a new form is required.
- 25 All four sections and three sub-sections (two sub-sections in the case of a test in a single -engine aeroplane) of the test must be taken at the first attempt.
- 26 An applicant is required to demonstrate that he can satisfactorily complete in one flight any three sections of the four sections. He will be required to take the section that he has failed in his next attempt with the other failed items.
- 27 During a re-test, candidates will be re-tested in Section 1 (Departure Procedures). In addition, the applicant is required for operational reasons to take up a hold during the retest; he will be reassessed on sub-section B.
- 28 Under the provisions of paragraphs 24 and 25, if an applicant has to take parts of the test again, he must satisfactorily complete all the outstanding items within a period of 21 days from the date of first test when obtaining the partial pass. If this is not achieved, the applicant will be required to take the whole flight test again.
- 29 If a candidate fails to achieve a valid pass in all sections and required sub-sections of the test within three attempts, he is required to meet the following prior to his first attempt in his second series of tests:
- (a) complete in the six months preceding the date of receipt in the DCA of the application for the first test in the second series such further training as the DCA may prescribe;
 - (b) obtained a form signed by a person authorized to sign such forms certifying that the prescribed training has been satisfactorily completed and that the applicant is fully ready to take the test.
- 30 The first attempt in the second series will cover the whole test and the series will be subject to the same pass conditions as the first series. If, within three attempts at the test in the second series, the applicant has still not obtained a valid pass in all sections and required sub-sections of the test, he will, before he may start the third series of attempts, be required to:
- (a) show that he has not less than 500 hours experience as pilot-in-command of aeroplanes;
 - (b) complete in the six months preceding the date of receipt in the DCA of the application for the first test in the third series, an approved course of training as specified by DCA.
 - (c) obtain a form signed by a person authorized to sign such forms, certifying that he has satisfactorily completed the required training and is fully ready to take the test.
- 31 The first two attempts at the test in the third series will be conducted subject to the same pass conditions as in the earlier series. However, if a third attempt is required, (regardless if it is within 21 days of the applicant having gained a partial pass) the applicant will have to take the whole test again.
- 32 If, at the conclusion of the third attempt in the third series, the applicant is unable to obtain a valid pass in all sections and required sub-sections of the test, he will be considered unsuitable to hold an Instrument Rating and will not normally be permitted to make any further attempts at the Instrument Rating test. The DCA will, however, be prepared, at his written request, to review the circumstances and results of all the tests he has taken to determine whether any further attempt may be permitted.

Any such further attempt, if allowed, would be subject to such conditions as the DCA deemed fit.

TERMINATION OF A TEST BY THE APPLICANT

- 33 Once a test has started, should the applicant choose not to continue with it for reasons not considered adequate by the Flight Examiner, he will be regarded as having failed those items not attempted in the test. Failure of the test on these grounds will be counted as an attempt.

TERMINATION OF A TEST BY THE FLIGHT EXAMINER

- 34 The Flight Examiner may stop the test at any stage if he considers that the applicant standard of flying warrants a re-test.

FLIGHT TEST ARRANGEMENTS

- 35 Where an applicant for an Instrument Rating has undergone an approved course of training, arrangements for the flight test, including the provision of a suitable aircraft, will normally be made by the FTO which conducted the training.
- 36 Applicants who have been exempted from having to undergo an approved course of training will be required to make their own arrangements for the test with the DCA. They must also make their own arrangements to provide an aircraft for the test. Such aircraft must be maintained and equipped to DCA requirements for the conduct of the test, including the method of ensuring that it can be flown by sole reference to instruments.

THE INSTRUMENT RATING CERTIFICATE OF TEST

- 37 The privileges of an Instrument Rating may not be exercised unless the licence contains a valid Certificate of Test (C of T). The period of validity of a C of T in relation to an Instrument Rating is 12 months from the date of the completion of the test.
- 38 On grant of an Instrument Rating the C of T will be completed by the DCA with a date of effect as from the date on which the Instrument Rating Flight Test was successfully completed.
- 39 Before the certificate can be completed again the licence holder must pass a further test conducted by DCA in an aircraft or an approved flight simulator. Access to such simulators can normally only be obtained through the operator who holds the simulator approval.
- 40 Any suitable means of simulating instrument flight conditions in an aeroplane may be used.
- 41 The test will comprise Section 1, Departure procedures, Section 2, Airways procedures, and a modified Section 3, ILS instrument approach procedure, consisting of an approach to land, go-around and missed approach procedures, Sub-section A, Preliminary and external checks, and Sub-section B, Holding procedures. Simulated failure of an engine and flight on asymmetric power will not be tested in Section 3.
- 42 A failure of more than one section of Sections 1, 2 and 3 will require the whole of the test to be taken again. If only one of these sections is failed, the Flight Examiner, at his discretion, may ask the applicant to repeat the failed procedure during the course of the test. Should a further flight test be necessary only the failed section need be taken again except that where a retest of Section 3 is required it will start from the holding pattern and the candidate will be re-assessed on Sub-section B as well as Section 3. If, in the course of any other retest, the applicant is required for operational reasons to take up a hold, he will be re-assessed on Sub-section B. In a retest of Sub-section B, Section 1 will also be retested. If in the course of a retest a section or sub-section which has previously been passed is performed unsatisfactorily a retest in that section or subsection will be required.

- 43 The whole of the test must be satisfactorily completed within 21 days from the initial attempt, or all passes gained will become invalid and the whole of the test must be taken again in one attempt, in accordance with the pass conditions as stated before.
- 44 On successful completion of the test, the C of T will be signed by the Flight Examiner with an effective date from the date which the test was successfully completed.

EXPIRY OF C OF T BY A PERIOD OF MORE THAN 12 MONTHS

- 45 If a period of more than 12 months has lapsed since the expiry of the C of T, the licence holder will be required, before the C of T can be revalidated, to pass a full Instrument Rating Flight Test. On successful completion of the test, the C of T will be issued by the DCA effective from the date on which the test was completed. Where a licence holder has remained in instrument flying practice on a foreign licence or in active flying with the MAF, this requirement may be waived. Advice should be sought from the DCA.

TEST FOR REMOVAL OF THE MULTI-CREW OR SINGLE-ENGINE AEROPLANE RESTRICTION

- 46 The holder of an Instrument Rating valid for a multi-crew aeroplanes or for single -engine aeroplanes may have the restriction lifted by passing a flight test conducted by DCA in an aeroplane of the type specified in paragraph 15 with the applicant acting as sole flight crew member. The arrangements to be observed for the test are as described in paragraph 15.
- 47 For lifting of the multi-crew restriction, the test will be conducted to the same syllabus and subject to the same pass conditions as that for an unrestricted rating. On the applicant passing the test, the DCA will lift the restriction on the rating and issue the C of T effective from the date on which the test was completed.
- 48 Before the test can be taken for removal of the single -engine aeroplane restriction, the applicant will, unless he is exempt under the terms of paragraph 9 be required to complete an approved course of training as specified in paragraph 7(c).
- 49 The test for removal of the single-engine restriction will be that described in paragraph 15 except Section 2 and Sub-section B, unless that if a holding procedure is required, the applicant will be assessed on it.
- 50 Successful completion of the test will allow lifting by the DCA of the single -engine restriction from the rating, but will not allow the C of T to be revalidated. For this to be done, the applicant will also be required to pass Section 2, Airways procedures, and Sub-section B, Holding procedures. Applicants wishing to have these items included in the test should request it at the time of making the arrangement for the test.
- 51 A failure of more than one Section of Sections 1, 2 and 3 will require the whole test to be taken again. If only one of these sections is failed, the Flight Examiner may require the applicant to repeat the failed section during the course of the test. Should another flight test be required, only the failed section need be taken again, except for Section 3 where the retest will start from the holding pattern and the candidate will be re-assessed on Sub-section B as well as on Section 3. If, in the course of any other re-test, the applicant is required for operational reasons to take up a hold he will also be re-assessed on Sub-section B. In a test of sub-section B, Section 1 will also be re-tested. If in the course of a re-test a section or sub-section which has previously been passed is performed unsatisfactorily a re-test in that section or sub-section may be required.
- 52 The whole of the test must be satisfactorily completed within 21 days from the initial attempt, or all previous passes will become invalid and the whole of the test must be taken again in one attempt, the pass conditions applying as before.

CHAPTER 7

THE INSTRUMENT RATING (HELICOPTERS)

THE INSTRUMENT RATING PRIVILEGES

- 1 The privileges of the Instrument Rating (Helicopters) allow the holder of a professional pilot's licence (helicopters) to act in a helicopter:
 - (a) on any flight as pilot-in-command (PIC) or as co-pilot in controlled airspace or conditions such that the pilot cannot comply with the specified weather provisions;
 - (b) in circumstances which require compliance with Instrument Flight Rules;
 - (c) as pilot-in-command (PIC) at night when passengers are carried or flying instruction is given, where the specific recent night flying is satisfied;
 - (d) as PIC on a scheduled journey.
- 2 The rating will be granted only in respect of helicopters having a Myanmar Certificate of Airworthiness which permits unrestricted flight in Instrument Meteorological Conditions and will be granted in respect only of those helicopters upon which the licence holder has passed an Instrument Rating flight test.
- 3 A CPL (H) or an ATPL (H) may be issued without it having to include an Instrument Rating but the licence privileges will not extend to flights under the circumstances detailed above.

APPROVED TRAINING

- 4 Unless qualifying for exemption as detailed in paragraph 6, persons wishing to obtain an Instrument Rating (Helicopters), will before they may take the Instrument Rating flight test, be required to complete an approved course of training. This will comprise:
 - (a) 20 hours dual instruction in instrument flying in helicopters, not less than five hours of which must be in the type in which the applicant wishes to qualify. The remainder may be in any helicopter having Myanmar Certificate of Airworthiness which permits instrument flight training.
 - (b) 20 hours instruction in instrument flying in an approved helicopter flight simulator or an approved procedure trainer. Up to 10 hours of this training may alternatively be conducted in an aeroplane.
- 5 The experience gained on an approved course of training may be counted toward satisfying the experience requirements for the rating as specified in paragraph 8.

EXEMPTION FROM APPROVED TRAINING

- 6 Exemption from having to undergo an approved course of training will normally be given to the following:
 - (a) **Holders of a Myanmar Instrument Rating (Aeroplanes)**
Pilots who hold, or have held within the three years preceding the date of receipt in the DCA on the application for the Instrument Rating (Helicopters), a Myanmar Instrument Rating (Aeroplanes).
 - (b) **MAF pilots**
Qualified serving pilots in the MAF who meet the experience requirements specified in paragraph 8.

FLYING EXPERIENCE REQUIREMENTS

- 7 **Appendix D** sets out the way in which flight time will be counted toward meeting the flying experience requirements.

- 8 The minimum flying experience required for grant of an Instrument Rating (Helicopters) to a pilot who does not already hold an Instrument Rating (Aeroplanes) is 200 hours as pilot of helicopters, which must include:
- (a) not less than 100 hours as PIC. This PIC time may include up to 65 hours as co-pilot acting as pilot-in-command under supervision (PIC U/S) provided that the applicant has not less than 250 hours as pilot of helicopters. The PIC experience must include not less than 50 hours cross-country flying;
 - (b) not less than 40 hours as pilot by sole reference to instruments. Up to 20 hours of this time may be in an approved helicopter flight simulator, including up to 10 hours in an approved procedure trainer;
 - (c) not less than 5 hours as pilot by sole reference to instruments in the type of helicopter in respect of which the applicant wishes to qualify. These hours must be gained in flight. They may be counted toward the requirement specified in paragraph 8(b).
- 9 Where a pilot holds, or has held within the three years preceding the date of receipt in the DCA of the application for the Instrument Rating (Helicopters), an Instrument Rating (Aeroplanes), the minimum experience required in helicopter is:
- (a) not less than 50 hours as PIC, of which not more than 15 hours may be as PIC U/S, including not less than 20 hours cross-country flying;
 - (b) not less than 20 hours as pilot by sole reference to instruments, of which not more than 10 hours of this may be in an approved helicopter flight simulator, including not more than 5 hours in an approved procedure trainer.
 - (c) not less than 5 hours as pilot by sole reference to instruments in the type of helicopter in which the applicant wishes to qualify. This time must be gained in flight. It may counted toward that required by paragraph 9(b) above.

GROUND EXAMINATION REQUIREMENTS

- 10 Persons who have passed the ground examinations for grant of a professional pilot's licence, or who have been exempted from having to take them, will not normally be required to take any ground examinations for grant of an Instrument Rating.

THE INSTRUMENT RATING FLIGHT TEST

- 11 All applicants for the grant of an Instrument Rating (Helicopters) will be required to pass, on the first type of helicopter to which the rating will apply, an Instrument Rating flight test conducted by DCA. Further tests will be required to extend rating privileges of other types of helicopters. (See paragraphs 23 to 26).
- 12 The test for grant of the rating is conducted subject to the same conditions as that for the Instrument Rating (Aeroplanes) except that where it is conducted in a multi-engine helicopter, an engine failure will be simulated during the missed approach following Section 3 or Section 4 whichever is flown first at the discretion of the Flight Examiner. The following section will then be conducted under simulated engine failure conditions.
- 13 The syllabus of the test, the conditions and assumptions upon which it will be conducted and the level acceptable performance is similar to that of the Instrument Rating flight test for aeroplanes (See **Appendix F**).
- 14 Where the test is conducted in a helicopter having a Certificate of Airworthiness which permits it to be flown by a sole flight crew member, the applicant will be expected to act as sole flight crew member. He will occupy the PIC position but the Flight Examiner will be the designated PIC.

- 15 Where the test is conducted in a helicopter requiring it to be flown by more than one pilot, the applicant may take the test as handling pilot in either the PIC or co-pilot position, and will be expected to call upon the other pilot to assist him in the conduct of the flight in accordance with the normal crew drills for that type of helicopter. Where the Flight Examiner occupies the PIC or co-pilot position, he will be the designated PIC. Where he does not occupy either of these positions, the pilot occupying either one who is not undergoing the test will be designated as PIC and must be a person authorised by the operator of the helicopter to act as a training or check captain on the type.

INSTRUMENT RATING FLIGHT TEST: PASS CONDITIONS

- 16 The flight test pass conditions for grant of the Instrument Rating (Helicopters) are the same as those for the Instrument Rating (Aeroplanes).
- 17 If the applicant has to go a third series of attempts at the test, he will, before he make the first attempt in the series, be required to:
- (a) show that he has not less than 500 hours experience as PIC of helicopters;
 - (b) complete in the six months preceding the date of receipt in the DCA of the application for the test, an approved course of training as specified by DCA.
 - (c) obtain a form signed by an authorised person certifying that he has satisfactory completed the required training and is fully ready to take the test again.

FLIGHT TEST ARRANGEMENTS

- 18 The flight test arrangements for grant of the Instrument Rating (Helicopters) are the same as those for the Instrument Rating (Aeroplanes).

THE INSTRUMENT RATING CERTIFICATE OF TEST

- 19 The privileges of an Instrument Rating (Helicopters) may only exercised in those types of helicopters in respect of each of which the licence contains a valid Certificate of Test (C of T). The period of validity of a C of T in respect of each type of helicopter is 13 months from the date of effect from the certificate in relation to that type.
- 20 On grant of an Instrument Rating, the C of T will be completed by DCA in respect of the type of helicopters on which the test was taken, effective from the date on which the Instrument Rating flight test was successfully completed. As tests are passed to extend the rating privileges to other types of helicopters, the additional types will be added to the rating by DCA who will complete at the same time the C of T in respect of each type effective from the date on which the extension flight test was successfully completed.
- 21 The flight test arrangements in respect of the C of T, the syllabus for the test and the pass conditions are the same as those for the aeroplane rating. A test must be taken in respect of each type of helicopter for which a C of T is required, but the Airways procedures section of the test, Section 2, need only be taken once every 12 months.

EXPIRY OF C OF T BY A PERIOD OF MORE THAN 13 MONTHS

- 22 If a period of more than 13 months has elapsed since the period of validity of the C of T expired, the licence holder will, before the C of T may be revalidated in respect of any type, be required to pass a full Instrument Rating flight test conducted by DCA as for the grant of the rating. On the test being passed, the C of T will be completed by the DCA in respect of the type of helicopter on which the test was taken, effective from the date on which the test was conducted. Where a licence holder has remained in instrument flying practice on a foreign licence and Instrument Rating or a Green Rating in

MAF for example, this requirement may be waived. Advice should be sought from the DCA.

FLIGHT TEST TO EXTEND THE RATING PRIVILEGES TO ADDITIONAL TYPES OF HELICOPTERS

- 23 To extend the Instrument Rating privileges to additional types of helicopters, the licence holder will be required to pass a further test on each of the types for which the extension is sought.
- 24 Before the flight test may be taken, the applicant will be required to have obtained not less than two hours as pilot by sole reference to instruments on the type of helicopter in which the test is to be taken, or in an approved helicopter flight simulator representative of the type.
- 25 If a first multi-engine helicopter Instrument Rating is to be included, the test will be as detailed as paragraph 12 above less Section 2 and Sub-section B, except that if a holding procedure is operationally necessary, the applicant will be assessed on it. For other cases the test will comprise Section 1 and Section 3 but if a holding procedure is operationally necessary, the applicant will be assessed on it. Every such flight test must be conducted in a helicopter.
- 26 On satisfactory completion of the flight test, the additional helicopter type will be added to the rating by the DCA, who will also complete the C of T in respect of that type effective from the date on which the test was successfully completed.

CHAPTER 8

TERMS FOR THE VALIDATION OF A NON-MYANMAR PILOT LICENCE FROM AN ICAO CONTRACTING STATE

THE VALIDATION OF NON-MYANMAR PROFESSIONAL PILOT LICENCE

- 1 A holder of a foreign pilot licence may be issued a Certificate of Validation by DCA on behalf of the Minister in accordance with the provisions of the Myanmar Aircraft Rules. In this regard a pilot licence issued by an ICAO Contracting State is considered to have the same validity as if the licence has been granted under the Myanmar Aircraft Rules. The holder is also considered to have satisfied the equivalent Myanmar medical standards appropriate to the class of the foreign pilot's licence held.
- 2 A Certificate of Validation may be issued under one of the circumstances:
 - (a) A visiting pilot who wishes to carry out private flights in a Myanmar registered aircraft for a short duration.
 - (b) The holder of a valid foreign professional pilot licence is undergoing training sponsored by a Myanmar Air Operator to obtain a Myanmar Professional Pilot Licence (Line training on public transport flights are not permitted for this purpose).
 - (c) The holder of a valid foreign professional pilot licence carrying out an overseas delivery flight on a Myanmar registered aircraft.
 - (d) The holder of a valid foreign professional pilot licence with instructor's rating carrying out flight tests or checks on behalf of DCA.
- 3 The powers delegated under the Myanmar Aircraft Rules permits the DCA to issue a Certificate of Validation for a licence holder to carry out any of the duties as stipulated in paragraph 2 above. DCA would not normally validate a pilot's licence for a period exceeding six months. (Three months in the case of a visiting pilot wishing to carry out private flights in Myanmar). The validity period of a Certificate of Validation issued by DCA is also subjected to the validity period whereby the applicant can exercise the privileges of his foreign licence.
- 4 A Flying Instructor Rating endorsed in a non-Myanmar licence may not be issued with a Certificate of Validation unless the applicant passes a practical flight test conducted by DCA or have been exempted by DCA under exceptional cases e.g carrying out flight tests on behalf of DCA.
- 5 A Certificate of Validation would include conditions detailing the purpose and privileges of the validation and the Certificate of Validation must be carried together with the applicable foreign licence when exercising its privileges.
- 6 The holder of an expired pilot licence is not eligible to apply for the Certificate of Validation.
- 7 A Certificate of Validation will not be issued for the purpose seeking regular employment as an aircrew on Myanmar-registered aircraft.
- 8 For the application of a Certificate of Validation, the applicant must have the following in or with his foreign pilot licence:
 - (a) a valid Medical Certificate
 - (b) a valid Flight Radiotelephony Operator's Licence (if applicable)
 - (c) a valid Certificate of Test and Aircraft Rating
 - (d) a valid Instrument Rating (if applicable)
 - (e) a valid Instructor's Rating (if applicable).
 - (f) the authentication letter for the licence from the licensing authority

Note: The above Certificates/Ratings must be issued by a single licensing authority. A combination of Certificates/Ratings issued by different authorities cannot be accepted for the application of a Certificate of Validation.

- 9 To ensure that the original licenses is in full compliance with Annex 1 Flight Standards Division will check the original authority website and safety oversight audit report.
- 10 Unless the original license is in full compliance with Annex 1 the authority will not issue the Myanmar Validation Certificate.

CHAPTER 9

REQUIREMENTS FOR THE RENEWAL OF A LAPSED CERTIFICATE OF TEST (C OF T), CERTIFICATE OF EXPERIENCE (C OF E) , INSTRUMENT RATING AND LICENCE

INTRODUCTION

- 1 The holder of a Myanmar professional pilot licence should maintain continuity of his licence and its associated ratings by :
 - (a) renewing his medical examination with a Designated Aviation Medical Examiner at the appropriate intervals to ensure continuity of the validity of his licence and medical certificate.
 - (b) undergoing flight tests at the appropriate intervals to maintain the privileges of his aircraft type(s) and Instrument Rating as specified in the MCAR PART 2- 2.4.
 - (c) renewing the holder's Certificate of Experience (C of E) if the holder flies for the purpose of aerial work or any purpose other than for the purpose of public transport by producing evidence of having carried out within the preceding 6 months, not less than 15 hours flying as pilot-in-command or co-pilot in an aircraft of the type or class to which the type rating relates.
- 2 The passing of the medical examination for the issue or renewal of a licence itself does not entitles the holder to exerise the privileges of his licence unless the holder also holds a valid Certificate of Test (C of T) or Certificate of Experience (C of E) for the Aircraft Rating specified in his licence.

RENEWAL OF A LAPSED AIRCRAFT RATING, C OF T OR C OF E

- 3 A licence Aircraft Rating, C of T or C of E which lapsed within 5 years will normally be renewed if the applicant passes the medical examination, the general flight test and aircraft type rating test required for the issue of the licence.
- 4 If the validity of the most recent Aircraft Rating, C of T or C of E contained in the licence have expired by a period of more than five years, the applicant may, before the licence is renewed, be required to pass the examination in Aviation Law, Flight Rules and Procedures, the Aircraft Type Examination, and the Aircraft Rating Flight Test. If a new aircraft type is to be endorsed in the applicant's licence in addition to the renewal of the licence, the applicant must also pass the appropriate Aircraft Technical Group of papers as determined by DCA.
- 5 If the validity of the most recent Aircraft Rating Certificate of Test or Certificate of Experience contained in the licence have both expired by a period of more than 10 years, the applicant will, before the licence is renewed, be required to pass all the ground examinations, (e.g. Navigation Group of papers, Aircraft Technical Group of papers) and the General Flight Test and the Aircraft Rating Flight Test. This will normally be modified, however, if the applicant has been in continued flying practice using a foreign licence. DCA will consider each case on its own merits.

RENEWAL OF A LAPSED INSTRUMENT RATING

- 6 When the period of validity of an Instrument Rating has lapsed within 13 months, the flight test may be carried out in accordance with the renewal flight test requirements.
- 7 If a period of more than 13 months has lapsed since the expiry of the C of T, the licence holder will be required, before the C of T can be revalidated, to pass a full instrument Rating Flight Test. On successful completion of the test, the C of T will be issued by DCA effective from the date on which the test was completed. When a licence holder has remained in instrument flying practice on a foreign licence or in active flying with the MAF, this requirement may be waived. Advice should be sought from DCA.

- 8 **Expiry of License/Rating(s).** Where a license has not been renewed by the date of expiry, the validity of the license stands lapsed. A holder of the expired license shall not exercise the privileges of his license/rating until he has either received his renewed license/rating or has got special approval from the DCA.
- 9 **Renewal of expired license.** To restore the validity of an expired license, the holder shall meet the requirements subject to the expiry period from the date of expiry as follows;
- (a) For the period of 6 months, the applicant shall fulfill all the requirements necessary for the renewal of the license/ratings.
 - (b) If the duration is more than 6 months but less than 12 months, the applicant shall successfully complete approved refresher ground course and a flight test on type the Aeroplane(s) or approved Flight Simulator.
 - (c) If the duration is more than 12 months but less than 24 months, the applicant shall successfully complete approved refresher ground course, flight training and flight test on the type of Aeroplane(s).
 - (d) If the duration is more than 24 months but less than 60 months, the applicant shall successfully complete all the requirements necessary for initial training on type, which includes, the approved ground course, DCA's examination, flight training with specified hours and a check-ride.
 - (f) If the duration is more than 60 months the applicant shall successfully complete all the requirements necessary for initial issue which includes;
 - (i) a current medical examination
 - (ii) a certificate from a flying instructor certifying that the student has carried out sufficient refresher training covering the contents of the course syllabus approved for ATPL or CPL examination as relevant.
 - (iii) he or she shall successfully complete the examination on Aeronautical Information Publication, Flight Operation Requirements and Air Law..
 - (iv) while undergoing a new type conversion, he shall successfully complete the approved ground course and DCA examination on type.
 - (v) he or she shall undergo the flight training with at least;
 - (A) in case of turbo-propeller powered Aeroplane, 10 hours for Pilot In Command and 8 hours for second in command.
 - (B) in case of jet engine powered Aeroplane, 20 hours for Pilot In Command and 10 hours for co-pilot.
 - (vi) he or she shall have to successfully complete a check ride on type.

CHAPTER 10

FLYING INSTRUCTOR RATINGS

1 INTRODUCTION

- 1.1 The circumstances under which a flying instructor rating is required are set out in MCAR Part- 2 Flight Crew Licensing. An Assistant Flying Instructor (AFI) or Flying Instructor (FI) rating is required if flying instruction is given either for the purpose of a person becoming qualified for the initial grant of a pilot licence, or for the inclusion or variation of any rating in his pilot licence.
- 1.2 This does not apply when instruction is given to a person for the purpose of obtaining an Aircraft Rating:
- (a) on a multi-engine aircraft if that person already holds such an aircraft rating; or
 - (b) for an aircraft of any of the classes shown in MCAR Part 2 - Flight Crew Licensing where the holder already holds a rating for an aircraft of that class.

2 THE ASSISTANT FLYING INSTRUCTOR -PRIVILEGES

- 2.1 The privileges of the AFI and FI rating are set out in MCAR Part 2 - Flight Crew Licensing *currently* in force. In general terms the holder of an AFI rating may give flying instruction in any type of aircraft in which he is qualified to act as PIC and for which type his instructor's rating is endorsed, provided that such instruction is given under the supervision of a person who holds a FI rating and is present during the take-off and landing at the aerodrome from which the instruction is to begin and end. An AFI may not give directions to a person in respect of his:
- (a) first solo flight
 - (b) first solo flight by night
 - (c) first solo cross-country flight by day
 - (d) first solo cross-country flight by night

3 ASSISTANT FLYING INSTRUCTOR (AEROPLANES)

- 3.1 An applicant for entry in the course for an AFI rating (Aeroplanes) is required to hold a valid Myanmar professional pilot licence and if deemed necessary by DCA, an assessment test on knowledge and flying skills prior to commencement of the training.
- 3.2 The course for the AFI rating (Aeroplanes) shall comprise a minimum of 55 hours ground and 28 hours flight training conducted by a FI appointed in DCA. The flight test is additional to the flight training.
- 3.3 At the end of the AFI course, the applicant shall have demonstrated a level of knowledge of the training appropriate to the privileges granted to the holder of a flight instructor rating covering the following:
- (a) techniques of applied instruction.
 - (b) assessment of student performance in those subjects in which ground instruction is given.
 - (c) the learning process.
 - (d) elements of effective teaching.
 - (e) student evaluation and testing, training philosophies;
 - (f) training programme development;
 - (g) lesson planning;
 - (h) classroom instructional techniques.
 - (i) use of training aids.
 - (j) analysis and correction of student errors.
 - (k) human performance and limitations relevant to flight instruction.
 - (l) hazards involved in simulating system failures and malfunctions in the aircraft.

- 3.4 The applicant shall also have at the end of the course receive instruction in flight instructional techniques including demonstrations, student practices, recognition and correction of common student errors and have practised instrumental techniques in flight manoeuvres and procedures in which it is intended to provide flight instruction.
- 3.5 The course is designed to qualify the applicant to give instruction on single -engine aeroplanes to the PPL standard. It does not qualify him to give instruction in applied instrument flying utilising radio navigation aids, instrument approaches, aerobatics or night flying.
- 3.6 A maximum of 5 hours mutual flying may be credited to the AFI course. The pilot acting as instructor is to record the flight time as PIC, and the pilot acting as student is to record it as supernumerary.
- 3.7 The course for the AFI rating and the flight test must all be completed within 12 months from the start of training.
- 3.8 For the grant of the rating, the applicant is required to:
- (a) complete the AFI rating ground and flight training course.
 - (b) have obtained a pass in the Human Performance & Limitations examination if he has not sat and passed this paper before.
 - (c) pass a technical examination on the aircraft type to be endorsed in the licence (if applicable).
 - (d) pass an oral examination and a flight test conducted by DCA.

4 REMOVAL OF RESTRICTIONS

- 4.1 To qualify for removal of the aerobatic restriction, the applicant is required to complete at least 8 hours ground training and 5 hours flight training according to an approved syllabus, and pass a flight test.

5 ENDORSEMENT OF ADDITIONAL TYPES

- 5.1 Before giving instruction in flying in other types of single-engine aeroplanes the holder of an AFI rating must:
- (a) have at least 5 hours experience as PIC on that type of aeroplane.
 - (b) pass a technical examination on the aircraft type.
 - (c) pass an oral examination and a flight test on the aircraft type conducted by DCA.
- 5.2 To qualify for endorsement in the AFI rating of a multi-engine type aeroplane the applicant will be required to:
- (a) hold a multi-engine aircraft type rating.
 - (b) have at least 30 hours experience as PIC or P U/T of multi-engine aeroplanes, of which at least 15 hours must be as PIC, including at least 5 hours as PIC on the type for which the endorsement is sought.
 - (c) complete a course of multi-engine aeroplane instructor training comprising a minimum of 15 hours ground and 7 hours flight training.
 - (d) pass a technical examination on the aircraft type to be endorsed.
 - (e) pass an oral examination and a flight test on the aircraft type conducted by a DCA.
- 5.3 The requirements to give instruction on additional types of multi-engine aeroplane are the same as for single engine types.

6 FLYING INSTRUCTOR (AEROPLANES)

- 6.1 The holder of a FI rating may give flying instruction in any aircraft in which he is qualified to act as PIC provided the aircraft type for which his FI rating is endorsed.
- 6.2 To qualify for a FI rating (Aeroplanes) the applicant will be required:

- (a) to have at least 400 hours experience as PIC of aeroplanes, including at least 200 hours as instructor on aeroplanes.
 - (b) to have been an AFI (Aeroplanes) for more than six months.
- 6.3 Endorsements included in the AFI rating will be transferred to the FI rating.
- 6.4 Applicants for the FI rating will be required to pass an oral examination and a flight test conducted by DCA. The test may be taken on either a single -engine aeroplane, or a multi-engine aeroplane where the applicant holds an AFI rating endorsed for multi-engine aeroplane.
- 6.5. An FI rating (Aeroplanes) will be endorsed to permit the holder to give flying instruction in any single-engine aeroplane specified in either Part 1 of the aircraft rating (A) of his professional licence.
- 6.6 If the holder is qualified to give instruction in multi-engine aeroplanes, the FI rating will be endorsed for such aeroplanes. However, before giving instruction in multi-engine aeroplanes he will be required to have at least 5 hours as PIC on the aircraft type concerned.
- 6.7 If the holder of a FI rating endorsed for single-engine aeroplanes only wishes to add an endorsement for multi-engine aeroplanes, he will be required to meet the same qualifying requirements as in the case of the AFI rating.

7 ASSISTANT FLYING INSTRUCTOR (HELICOPTERS)

- 7.1 An applicant for entry in the course for an AFI rating (Helicopters) is required to have the following pre-entry qualifications:
- (a) have at least 300 hours as PIC of helicopters, including at least 15 hours in the six months immediately preceding the course as PIC on the type of helicopter on which the course is to be conducted.
 - (b) pass a general handling flight check by DCA on the type of helicopter on which the course is to be conducted.
- 7.2 Before being permitted to take the AFI rating flight test, the applicant will be required to have at least 30 hours as PIC of the first type of helicopter to be endorsed in the rating and on which the test is to be taken, of which at least 15 hours must have been obtained in the six months preceding the date of the test.
- 7.3 The approved course of training for the AFI rating (Helicopters) comprises at least 50 hours ground and 25 hours flight training. This minimum course will not qualify the applicant to give instruction in instrument flying or night flying.
- 7.4 At the end of the AFI course, the applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a flight instructor rating covering the following:
- (a) techniques of applied instruction.
 - (b) assessment of student performance in those subjects in which ground instruction is given.
 - (c) the learning process.
 - (d) elements of effective teaching.
 - (e) student evaluation and testing, training philosophies.
 - (f) training programme development.
 - (g) lesson planning.
 - (h) classroom instructional techniques.
 - (i) use of training aids.
 - (j) analysis and correction of student errors.
 - (k) human performance and limitations relevant to flight instruction.
 - (l) hazards involved in simulating system failures and malfunctions in the aircraft.

- 7.5 The applicant shall also have at the end of the course receive instruction in flight instructional techniques including demonstrations, student practices, recognition and correction of common student errors and have practised instrumental techniques in flight manoeuvres and procedures in which it is intended to provide flight instruction.
- 7.6 The course of training for the AFI rating (Helicopters), the aircraft rating flight test and the ground examination must be satisfactorily completed within 12 months of the date on which the training is commenced.
- 7.7 For the grant of the rating, the applicant is required to:
- complete the AFI rating ground and flight training course.
 - pass a technical examination on the helicopter type to be endorsed (if applicable).
 - pass an oral examination and flight test conducted by DCA.
 - obtain a pass in the Human Performance & Limitations examination paper if he had not sat and passed this paper before.

8 ENDORSEMENT OF ADDITIONAL HELICOPTER TYPES

- 8.1 The holder of an AFI(H) rating may only give instruction on types of helicopters endorsed in the rating.
- 8.2 A holder who wishes to qualify for the endorsement of a further type of helicopter in the AFI(H) rating will be required to:
- have at least 5 hours as PIC on type.
 - pass a technical examination of the aircraft type conducted by DCA.
 - pass an oral examination and a flight test conducted by DCA.
- 8.3 Where the type for which the additional endorsement is sought is of a type of any of the categories listed below, the applicant will be required to have at least 30 hours as PIC of helicopters in that category, to include at least 5 hours as PIC on the type on which the test is to be taken. The categories are :
- helicopters exceeding 2300 kg maximum total weight authorised.
 - turbine-engine helicopters.
 - multi-engine helicopters.
 - multi-rotor helicopters

9 FLYING INSTRUCTOR RATING (HELICOPTERS)

- 9.1 To qualify for the grant of an FI rating (Helicopter) the applicant is required:
- to have at least 500 hours experience as PIC of helicopters, including at least 200 hours as instructor on helicopters. This PIC time must include at least 30 hours on the first type of helicopter to be endorsed in the rating and upon which the rating flight test is to be taken; and
 - to have been an AFI (Helicopters) for six months.
- 9.2 Endorsements on the AFI rating will be transferred to the FI rating.
- 9.3 Applicants for the FI rating (Helicopters) are required to pass a flight test and oral examination conducted by DCA.
- 9.4 A FI rating (Helicopters) will be endorsed to permit the holder to give flying instruction in any of the type of helicopter for which the rating is endorsed.
- 9.5 The requirements for endorsement of additional helicopter types in a FI(H) are the same as for an AFI(H).

10 THE AFI AND FI RATING'S CERTIFICATE OF TEST

- 10.1 The privileges of an AFI or FI rating may not be exercised unless the licence contains a valid C of T in respect of the functions to which the rating relates. The period of validity of a C of T in relation to an AFI

rating is 12 months and, in relation to an FI rating, 24 months from the date of test on the certificate.

- 10.2 The test may be taken on any type of aeroplane or helicopter for which the rating is endorsed.
Except that, where a rating is endorsed for both single-engine and multi-engine aeroplanes or helicopters, then successive revalidation flight tests must be alternately taken on single -engine and multi-engine aeroplanes or helicopters. If the rating lapses, a retest is required on aircraft in both Groups in order to revalidate the rating for both.

11 HOLDER OF A FOREIGN PILOT'S LICENCE WITH A FLYING INSTRUCTOR'S RATING

- 11.1 Only holders of foreign professional pilot licences with FI ratings will be considered for licence conversion to a Myanmar equivalent. The applicant must meet the flying experience requirements for the issue of a Myanmar ATPL/CPL and FI rating.
- 11.2 A foreign AFI rating will not be considered for licence conversion.

CHAPTER 11

CONVERSION OF A NON-MYANMAR PILOT LICENCE

GENERAL

- 1 Consideration may be given for the conversion of a non-Myanmar professional pilot licence of an ICAO Contracting State provided the applicant meets the following conditions:
 - (a) He must be sponsored for employment by a Myanmar Air Operator to fly on a Myanmar registered aircraft.
 - (b) His foreign pilot licence and ratings must be valid from the time of application to the time of issue of a Myanmar licence and its associated ratings.

Note : (i) The applicant's licence and its associated ratings submitted to DCA for consideration must be issued by a single licensing authority. A combination of Certificates/Ratings issued by different licensing authorities cannot be accepted for a licence conversion.

 - (ii) A temporary licence will not be accepted by DCA.
 - (c) He must pass an initial medical examination conducted by a Myanmar Designated Aviation Medical Examiner. He is also required to submit the medical records of his last 2 medical examinations carried out for the renewal of his foreign licence including the last 2 X-ray and ECG examinations. (The DAME shall hold in abeyance the results of an applicant's initial medical examination for assessment until the receipt of the required records).
 - (d) He must fulfill all conversion terms specified by DCA within 6 months preceding the issue of a Myanmar licence and its associated ratings.

CONVERSION TERMS FOR NON-A MYANMAR PROFESSIONAL PILOT LICENCE TO A MYANMAR EQUIVALENT

- 2 Holders of a valid foreign professional pilot licence would not be automatically eligible for conversion to a Myanmar equivalent.
- 3 The conversion terms for each applicant as specified by DCA would take into consideration the following:
 - (a) The total, type and recent flying experience of the applicant.
 - (b) The operating capacity (captain/co-pilot) and the aircraft type the applicant has flown.
 - (c) The aircraft type to be flown by the applicant with the sponsoring Myanmar Air Operator.
 - (d) The conditions leading to for the issue of the foreign licence (e.g. compliance with ICAO Annex 1 requirements, the foreign licence being issued on the strength of another Contracting State's licence or based on military flying experience, exemptions, if any, granted by the issuing aviation authorities).
 - (e) The authentication letter for licence from the licence issuing authority
- 4 It should be noted that the above would be the minimum criteria taken into consideration by DCA in assessing the conversion terms for an applicant applying for a Myanmar licence. Each case will be considered on its own merits.
- 5 The conditions spelt out in this document apply to all new applications for conversion of licence henceforth. For applicants who have not yet converted their licence to the Myanmar equivalent, the conditions given to them in the past for conversion of a non-Myanmar Pilot Licence (in previous documents or correspondence, etc).
- 6 It should also be emphasised that DCA would not convert a foreign ATPL to a Myanmar equivalent if an applicant can carry out his flying duties with the sponsoring Myanmar Air Operator by exercising the privileges of a Myanmar Commercial Pilot Licence.

7. To ensure that the original license is in full compliance with Annex 1 , Flight Standards Division will check the original authority website and safety oversight audit report.
8. Unless the original license is in full compliance with Annex 1 the authority will not issue the Myanmar License.

CONVERSION OF NON-MYANMAR PROFESSIONAL PILOT'S LICENCE TO A MYANMAR PPL

9. Holders of a non-Myanmar professional pilot licence will be rendered valid for conversion to a Myanmar PPL for use in private flights. This is subject to the applicant meeting the following requirements:
 - (a) passing a Class 2 medical examination with a Myanmar Designated Aviation Medical Examiner
 - (b) passing the Myanmar PPL Aviation Law, Flight Rules and Procedures and Human Performance & Limitations papers and
 - (c) passing a PPL flight test with DCA.

CHAPTER 12

SPECIAL LICENSING REQUIREMENTS FOR MAF PILOTS

1 APPLICATION

- 1.1 The licensing requirements spelt out in this chapter apply only to Myanmar Air Force (MAF) pilots who are in current flying practice in military aircraft. Foreign military pilots will not be accepted for licence conversion. Current flying practice in military aircraft is to be interpreted as having flown at least 50 hours as first pilot according to military procedures during the 12 months preceding the date of assessment for a licence. A MAF pilot who is not in current flying practice will not be entitled to any special licensing terms as set out in this chapter and must meet the standard requirements as set out elsewhere in this publication.
- 1.2 The general information, application procedures and the medical requirements contained in Chapter 1 and Chapter 2 of this manual are also applicable to all MAF pilots applying for a Myanmar licence.

2 REQUIREMENTS (POLICY)

- 2.1 The licensing policy for MAF pilots is based upon the testing of their skills as a pilot in Chapters 4, 5 and 6 and DCA' obligation to ensure that sufficient knowledge is acquired in order for them to be adjudged competent to perform pilot duties in a civil flying environment. Acquisition of this additional knowledge is to be demonstrated to DCA by passing all the ground examinations for the issue of a licence. However, military pilots are exempted from taking the Signals, RT theory and practical examinations.

3 RECOGNITION OF MLITARY QUALIFICATIONS

- 3.1 DCA recognises the flying hours accumulated by MAF pilots during their military services. However, MAF pilots are required to attend a further course of approved flying training before they can be accepted for flight tests with DCA for the issue of a professional pilot licence.

4 TYPE RATING

The DCA will issue an aircraft type rating only for aircraft types that registered in Myanmar Civil Aviation.

5 INSTRUMENT RATING (AEROPLANES AND HELICOPTERS)

- 5.1 Exemption from having to undertake an approved course of training will normally be given to MAF pilots holding a military instrument flying qualification at or above the ' Green Card' level and who are in current flying practice.

SYLLABUS - CPL/ATPL NAVIGATION SUBJECTS

RADIO AIDS

Electro Magnetic Radiation
Basic Transmitter
Antennas
Modulation of Radio Waves
Wave Propagation
Radio Communications
Ground D/F
ADF/NDB
VOR (conventional and Doppler)
ILS
MLS
Basic Radar Principles
DAME
VOR/DME Area Navigation (RNAV)
SSR
Ground Radar
Airborne Weather Radar
Doppler
Radio Altimeter
Ground Proximity Warning System (GPWS)
Hyperbolic Navigation Systems
Loran-C
Satellite Assisted Navigation
Traffic Collision Avoidance System (TCAS)

FLIGHT PLANNING AND FLIGHT MONITORING

Flight Plans for Cross Country Flights
Fuel Plan
Flight Monitoring and In-Flight Replanning
Radio Communications and Navigational Aids
Air Traffic Flight Plan
Practical Flight Planning
Radio Planning
IFR (Airways) Flight Planning
Jet Aircraft Flight Planning
Computerised Flight Planning

NAVIGATION

The Earth
The Triangle of Velocities
Fuel
Pilot Navigation
Charts
Navigation Requirement for Long Range Flights
Emergency Data
Relative Velocity
Time and Time Conversions

INSTRUMENTS

Air Data Sources
Air Data Instruments
Airspeed Indicator (ASI)
Vertical speed indicator (VSI)
Machmeter
Mach/airspeed indicator (MASI)
Air data computer (ADC)
Gyroscopic Instruments
Direction indicator (DI)
Remote indicating compasses (RIC)
Artificial horizon
Turn and balance indicator
Turn co-ordinator
Accelerometers: Principle
Gyro stabilised gimballed platform
Strapped down systems
Inertial navigation
Magnetism and Compasses
Direct Reading Magnetic Compass (DRMC)
Deviation card Electronic Displays and Systems
Electronic Flight Instrument Systems (EFIS)
Flight Management Systems (FMS)
Flight Director Systems

METEOROLOGY (THEORY)

Composition and Properties of the Atmosphere.

Pressure, Temperature and Density of the Atmosphere. Barometric pressure, isobars. Diurnal variation of pressure, pressure variation with height. Determination of QFF. Transfer of heat, solar and terrestrial radiation, conduction, turbulence, convection, radiation. Temperature near earth's surface, surface effects, diurnal variation, effect of clouds, effect of wind and humidity. Elementary heat balance in atmosphere. Adiabatic processes, dry

air, evaporation, condensation, latent heat, saturated air, simple temperature/height diagram. Vertical distribution of temperature, troposphere, tropopause, stratosphere, lapse rate, atmospheric equilibrium, development of inversions, types of inversions, influence on the weather. Stability and instability: changes caused by radiation, turbulence, convection, advection, subsidence, convergence, divergence and precipitation. Density, variation at surface and with height. Aircraft performance and air density.

Humidity, Clouds and Precipitation, Wind, Visibility, Ice Accretion, Air masses, Fronts, Air masses and Frontal, Analysis, Climatology (Not applicable for CPL), The Weather Map, Observations, Flight Documentation

HUMAN PERFORMANCE AND LIMITATIONS

Basic Aviation Physiology and Health Maintenance, Basic Aviation Psychology, Stress, Fatigue and their Management, Management of sleep with drugs. Social Psychology and Ergonomics of the Flight Deck

NAVIGATION PLOTTING

Calculation factors affecting accuracy and plotting of DR position. Measurement of track and distance, assessment of magnetic variation. Plotting of position lines from radio facilities, establishment of aircraft position by transference of straight and curved position lines by track and groundspeed, use of single position lines, fixing by position lines. Calculation of actual track and groundspeed by reference to plotted position, calculation of actual wind velocity. Revision of ETA and fuel endurance. Use of external aids for INS cross checks. Navigation on climb and descent. Maintaining a flight log.

CPL/ATPL – AIRCRAFT TECHNICAL GROUP OF PAPERS

Principles of flight (aeroplanes) Principles of flight (helicopters)

Flying controls (aeroplanes)

Flying Controls, rotors and transmission (helicopters)

Piston engines and supercharging

Gas turbine engines

D. C. electrics

Hydraulics

Variable pitch propellers (aeroplanes)

Air conditioning and pressurisation

A.C. electrics

Loading

Syllabus for Aircraft (Type)

Limitations

Engine operation

Controls (including flaps, slats, spoilers, air brakes and equivalent devices gust alleviation and direct lift control).

Automatic pilot systems and flight management systems

Pneumatic pressure and/or vacuum systems

Hydraulic systems

Landing gear (land and/or water), wheel brakes, and braking devices not associated with the engines

Electrical systems

Radio and radar systems

Air conditioning and pressurisation systems

Ice and rain protection systems

Additional aspects

For a helicopter type rating

Limitations

Engine operation

Control and transmission systems

Pneumatic pressure and/or vacuum systems

Hydraulic systems

Electrical systems

Radio and radar systems

Air conditioning systems

Ice and rain protection systems

Additional aspects

Flight characteristics

PERFORMANCE

Ability to interpret and use performance data in conjunction with the appropriate performance requirements of an aircraft eg rate and gradient of climb; obstacle clearance after take-off; permissible take-off and landing weights for the distances available.

The data and performance charts on which questions are based will be representative of the performance of a multi-engine aircraft above 20,000 kg and not a specified type.

Performance data used in the examination will consist of a set of specimen performance charts with appropriate supporting documents and appropriate performance requirements.

RADIOTELEPHONY

The use of normal R/T communications and procedures, eg the phonetic alphabet; standard R/T phraseology; reporting departure; requesting D/F assistance and meteorological information; transmitting position reports; distress and urgency procedures.

FLIGHT INSTRUCTIONS AND SKILLS REQUIREMENTS FOR THE ISSUE OF A CPL AND ATPL

1 FLIGHT INSTRUCTIONS

1.1 CPL (Aeroplanes)

1.1.1 The applicant for a CPL(A) shall have received dual instruction in aeroplanes from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in the following areas to the level of performance required for the commercial pilot:

- (a) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;
- (b) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- (c) control of the aeroplane by external visual reference;
- (d) flight at critically slow airspeeds; spin avoidance; recognition of, and recovery from, incipient and full stalls;
- (e) flight at critically high airspeeds; recognition of, and recovery from, spiral dives;
- (f) normal and cross-wind take-offs and landings;
- (g) maximum performance (short field and obstacle clearance) take-offs; short-field landings;
- (h) basic flight manoeuvres and recovery from unusual attitude by reference solely to basic flight instruments;
- (i) cross-country flying using visual reference, dead-reckoning and radio navigation aids; diversion procedures;
- (j) abnormal and emergency procedures and manoeuvres; and
- (k) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.

1.1.2 If the privileges of the licence are to be exercised at night, the applicant shall have received dual instruction in aeroplanes in night flying, including take-offs, landings and navigation.

1.2 ATPL (Aeroplanes)

1.2.1 The applicant shall have received the dual flight instruction required for the issue of the commercial pilot licence – aeroplane and for the issue of the instrument rating – aeroplane.

1.3 CPL (Helicopters)

1.3.1 The applicant shall have received dual instruction in helicopters from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in the following areas to the level of performance required for the commercial pilot:

- (a) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;
- (b) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- (c) control of the helicopter by external visual reference;
- (d) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;
- (e) ground manoeuvring and run-ups; hovering; take-offs and landings – normal, out of wind and sloping ground; steep approaches;
- (f) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;

- (g) hovering out of ground effect; operations with external load, if applicable; flight at high altitude;
- (h) basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;
- (i) cross-country flying using visual reference, dead-reckoning and radio navigation aids, diversion procedures;
- (j) abnormal and emergency procedures, including simulated helicopter equipment malfunctions, auto-rotative approach and landing; and
- (k) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.

1.3.2 If the privileges of the licence are to be exercised at night, the applicant shall have received dual instruction in helicopters in night flying, including take-offs, landings and navigation.

1.4 ATPL (Helicopters)

1.4.1 The applicant shall have received the flight instruction required for the issue of the commercial pilot licence – helicopter.

2 SKILLS

2.1 CPL (Aeroplanes)

2.1.1 The applicant shall have demonstrated the ability to perform as pilot-in-command of an aeroplane, the procedures and manoeuvres described in Flight Instructions - CPL(A) with a degree of competency appropriate to the privileges granted to the holder of a commercial pilot licence – aeroplane, and to:

- (a) operate the aeroplane within its limitations;
- (b) complete all manoeuvres with smoothness and accuracy;
- (c) exercise good judgement and airmanship;
- (d) apply aeronautical knowledge; and
- (e) maintain control of the aeroplane at all times in a manner such that the successful outcome of a procedure or manoeuvre is never seriously in doubt.

2.2 ATPL (Aeroplanes)

2.2.1 The applicant shall have demonstrated the ability to perform, as pilot-in-command of a multiengine aeroplane required to be operated with a co-pilot, the following procedures and manoeuvres:

- (a) pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;
- (b) normal flight procedures and manoeuvres during all phases of flight;
- (c) procedures and manoeuvres for IFR operations under normal, abnormal and emergency conditions, including simulated engine failure, and covering at least the following:
 - transition to instrument flight on take-off
 - standard instrument departures and arrivals
 - en-route IFR procedures and navigation
 - holding procedures
 - instrument approaches to specified minima
 - missed approach procedures
 - landings from instrument approaches
- (d) abnormal and emergency procedures and manoeuvres related to failures and malfunction of equipment, such as powerplant, systems and airframe; and
- (e) procedures for crew incapacitation and crew co-ordination, including allocation of pilot tasks, crew co-operation and use of checklists.

2.2.2 The applicant shall have demonstrated the ability to perform the procedures and manoeuvres described above with a degree of competency appropriate to the privileges granted to the holder of an airline transport pilot licence – aeroplane, and to:

- (a) operate the aeroplane within its limitations;
- (b) complete all manoeuvres with smoothness and accuracy;
- (c) exercise good judgement and airmanship;
- (d) apply aeronautical knowledge;
- (e) maintain control of the aeroplane at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt;
- (f) understand and apply crew co-ordination and incapacitation procedures; and
- (g) communicate effectively with the other flight crew members.

2.3 CPL (Helicopters)

2.3.1 The applicant shall have demonstrated the ability to perform as pilot-in-command of a helicopter, the procedures and manoeuvres described in Flight Instructions – CPL(H) with a degree of competency appropriate to the privileges granted to the holder of a commercial pilot licence – helicopter, and to:

- (a) operate the aeroplane within its limitations;
- (b) complete all manoeuvres with smoothness and accuracy;
- (c) exercise good judgement and airmanship;
- (d) apply aeronautical knowledge; and
- (e) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or manoeuvre is never seriously in doubt.

2.4 ATPL (Helicopters)

2.4.1 The applicant shall have demonstrated the ability to perform, as pilot-in-command of a helicopter required to be operated with a co-pilot, the following procedures and manoeuvres:

- (a) pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;
- (b) normal flight procedures and manoeuvres during all phases of flight;
- (c) abnormal and emergency procedures and manoeuvres related to failures and malfunctions of equipment, such as powerplant, systems and airframe; and
- (d) procedures for crew incapacitation and crew co-ordination including allocation of pilot tasks, crew co-operation and use of checklists.

2.4.2 The applicant shall have demonstrated the ability to perform the procedures and manoeuvres described above with a degree of competency appropriate to the privileges granted to the holder of an airline transport pilot licence – helicopter, and to:

- (a) operate the helicopter within its limitations;
- (b) complete all manoeuvres with smoothness and accuracy;
- (c) exercise good judgement and airmanship;
- (d) apply aeronautical knowledge;
- (e) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt;
- (f) understand and apply crew co-ordination and incapacitation procedures; and
- (g) communicate effectively with the other flight crew members.

APPENDIX - C

RECORDING AND CREDITING OF FLIGHT TIME

		Aircraft Rating (A)			
Case	Operating Capacity	Requirements in professional pilot's licence, or Aircraft group rating in PPL where applicable	Non-pilot licence requirements	Designation in log book under 'Holder's operating capacity'	Recording of item in log book and crediting of such time toward licence experience requirements
1	2	3	4	5	6
A	Pilot-in-command (PIC)	Part 1: Appropriate PPL group	N/A	PIC or P1	Enter time in 'P1' column, Counted in full.
B	Co-pilot performing the duties of PIC under supervision of pilot-in-command (PIC U/S) See Note 2	Part 1 or Part 2; Appropriate PPL group	N/A	PIC U/S	Enter time in 'P1' column. Counted in full toward licence experience requirements subject to certification by the pilot-in-command.
C	Co-pilot See Note 3	Part 2 or Part 1	N/A	P2	Enter time in 'Second Pilot' or in 'Co-pilot (P2)' column. Counted at half rate toward overall licence experience requirements.
D	Co-pilot whilst holding PPL	Group B or C	N/A	P2	Enter times as for Case C. Counted at half rate towards overall licence experience requirements for professional pilots' licences.
E	Pilot acting as (i) Systems Panel Operator (SPO) in aircraft certificated for optional operation by three pilot crew; or	N/A	N/A	SPO	Enter time in the 'F Eng', 'Any other flying' or spare column and annotate 'SPO' or 'F Eng' as appropriate.
	(ii) Flight Engineer (FE) in aircraft certificated for optional or mandatory operation by two pilots + F E crew	N/A	F E licence with rating	E1	Not counted towards licence experience requirements.

F	Pilot on flight deck but not as P1, P2, SPO or FE:				Enter time in the 'F/Nav', 'Any other flying' or spare column and annotate 'N1'. Not counted toward licence experience` requirements
	(i) Acting as 'required' Flight Navigator (under the Air Navigation Order);	N/A	F/N licence	N1	Enter time for Case C and count at half rate toward overall licence experience requirements.
	(ii) Pilot supervising Co-pilot activities;	Part 1	N/A	P2	
	(iii) Other flying duties	N/A	N/A	SNY	Enter time in 'Any other flying' or spare column and annotate 'SNY'. Not counted toward licence experience requirements.
G	Pilot under instruction for the purpose of gaining a licence or rating, or for conversion to an aircraft type within a PPL Aircraft Rating group.	N/A for grant of a licence or Aircraft Rating. Otherwise Part 1 or Part 2, or appropriate PPL Aircraft Rating group.	N/A	P/UT	Enter time in 'Dual' column, Counted in full toward overall licence experience requirements.
H	Pilot under instruction on an APPROVED COURSE of CPL or CPL/IR training acting as pilot-in-command under the supervision of a flying instructor.	N/A	N/A	PIC U/S	Enter time in 'P1' column. Counted in full toward PIC requirements for grant of a CPL or CPL/IR subject to certification by the supervising pilot and to a maximum agreed between DCA and the flying training organisation conducting the Approved Course.

I	Pilot undergoing any form of flight test other than for the grant renewal or extension of an aircraft rating Part 2.	N/A for grant of a licence or Aircraft Rating. Part 2 for upgrade of Aircraft Rating from Part 2 to Part 1.	N/A	PIC U/S for successful test	For successful test enter time in 'P1' column and have it certified by the aircraft commander. For unsuccessful tests enter time in 'Dual' column.
		Otherwise, Part 1 or appropriate PPL Aircraft Rating group.	N/A	P/UT for unsuccessful test	PIC U/S time counted in full within maximum specified in Cases B and H. P/UT time counted in full toward overall licence experience requirements.
J	Pilot undergoing a flight test in the capacity of co-pilot for grant of a licence or rating or for variation of rating, or in relation to Certificate of Test.	N/A for grant of a licence or Aircraft Rating. Otherwise, Part 2.	N/A	P2	As for Case C.
K	Student pilot flying as the sole occupant of an aircraft during training for the grant of a PPL or CPL.	N/A	N/A	PIC or P1	Enter time in 'P1' column. Counted in full.
L	Student pilot flying as pilot-in-command during training for the grant of a CPL accompanied by: Safety pilot	PPL for appropriate Group or Exemption from holding a PPL. As above or Part 1	N/A N/A	PIC or P1 SNY	As for Case L. As for Case F (iii)
M	Pilot undergoing AFI training as pilot-in-command accompanied by: Pilot acting as 'student' for instructional purposes	Part 1; Appropriate PPL group Part 1; Appropriate PPL group	N/A N/A	PIC or P1 SNY	Roles in Column 2 are interchangeable between pilots. Time spent as 'P1' to be entered and counted as for Case L. Time spent as 'student' to be entered and counted as for Case F (iii).

Notes:

1. Whenever two pilots performing duties in the same capacity, share a particular operating duty on a flight, each pilot shall only record (in the appropriate column of his personal log book), the time when he actually performed such duty in the pilot's or co-pilots seat during the flight. The time spent away from duty in the respective seat shall be logged as SNY as per F(iii) in the foregoing table. Such time shall NOT count towards licence experience requirements, but shall apply for FDP and FTL.

2. A pilot claiming time spent as co-pilot performing the duties and functions of pilot-in command, under the supervision of the pilot-in-command, toward meeting the licence requirements as given in Case B, will be credited with that flight time only if:
 - (a) the flight was conducted in an aircraft having a Certificate of Airworthiness which requires its flight crews to include not less than two pilots;
 - (b) he was responsible for checking the accuracy of the flight plan, loadsheet and fuel calculations for the flight;
 - (c) he ensured that all crew checks were carried out in accordance with the laid down operation procedures;
 - (d) throughout the flight he carried out all the duties and functions of pilot-in-command and conducted the take-off and the landing;
 - (e) he resolved all meteorological, communication and air traffic control problems;
 - (f) the pilot-in-command did not have to overrule any course of action proposed or taken by the co-pilot;
 - (g) the pilot-in-command certifies in the co-pilot's flying log book against the entry for that flight that it was carried out by the co-pilot acting as pilot-in-command under supervision. Such certification will be taken as confirming that all the foregoing conditions were met.
3. A pilot claiming flying hours as co-pilot towards meeting the overall flying experience requirements for a licence, as provided for in cases C, D, F (ii) or K, will only be credited with that flight time if holding an appropriate licence to perform co-pilot duties, and if:
 - (a) the flight was conducted in an aircraft required by its Certificate of Airworthiness, or the Air Navigation Order, to carry a crew of not less than two pilots; or
 - (b) the flight was conducted by an Air Operator's Certificate (AOC) holder choosing to operate a particular aircraft as a two pilot operation and provided that the specific duties that the second pilot was required to perform on all flights in respect of the operation of the aircraft were contained in the Operations Manual relating to the aircraft; or
 - (c) it was conducted in a military aircraft normally flown by more than one pilot.
4. Flight time as PIC U/S, apart from as specifically provided for under Case J above, will only be allowable for the holder of a PPL subject to the terms of a prior agreement with the DCA.
5. Any pilot conducting proficiency tests or training or supervision or supernumerary duties, from any seat other than the pilot's or co-pilot's seat, shall record (in the appropriate column of his logbook) such flying as SNY as per F(iii) in the foregoing table. Such time shall NOT count towards licence experience requirements, but shall apply for FDP and FTL.

THE GENERAL FLIGHT TEST FOR A PROFESSIONAL PILOT'S LICENCE SYLLABUS FOR THE TEST FOR AEROPLANES AND HELICOPTERS

PREPARATION FOR FLIGHT AND PRE TAKE-OFF PROCEDURES : AEROPLANES AND HELICOPTERS

At the beginning of the test, or at the beginning of any Section of the test when Sections are taken separately, applicants will be assessed on their ability to perform the following actions leading up to the take-off.

Self briefing

Attention to weather minima

Document checking

Preliminary and external checks

Checks before starting

Starting procedure (and rotor engagement – helicopters)

Checks after starting including instrument and radio

Taxying and instrument checks

Power check

Pre take-off checks

ATC liaison and compliance

GFT SECTION 1 : CROSS-COUNTRY

Aeroplanes and Helicopters

Flight planning and self-briefing

DR Navigation (correction of track error, revision of ETAs)

Map reading

Use of radio aids for position fixing

Maintenance of heading/height/airspeed.

Heading setting technique

Diversion Approach to unfamiliar landing point (helicopters only)

Log keeping

ATC liaison and compliance. Observance of Air Traffic Control Regulations and Rules of the Air

Engine handling

Cockpit management

Airmanship

Note : At some suitable stage in Section 1, the applicant will be asked to carry out certain basic handling exercises from Section 2 and the instrument flying exercises from Section 3. Part of the navigation element will be conducted under simulated IMC.

GFT SECTION 2 : BASIC AIRCRAFT HANDING

Aeroplanes

Take-offs (including crosswind)
Steep turns
Precautions before stalling
Recovery from stall in straight flight
Recovery from stall in approach configuration
Recovery from stall in banked attitude
Steep gliding turns
Action in event of fire
Forced landings
Circuit procedure
Approaches and landings (including crosswind)
Go-around procedure
Engine failures after take-off
Shutdown procedures
ATC liaison and compliance
Engine handling

Helicopters

Vertical take-off and landing
Transition into forward flight/hover
Climbing, descending and steep turns
Engine failure and practice forced landing
An auto-rotative landing on a predetermined position
Action on the event of fire
Engine failure in hover flight
Crosswind/sloping ground landings and take-offs Sideways and backward flight : hover turns
Partial power take-off and landing
Manual approach and landing (if helicopter servo-controlled)
Flight into and out of a restricted area
Emergency stop
Vortex ring recognition and recovery
Shut down procedures
Engine handling
ATC liaison and compliance
Airmanship

GFT SECTION 3 : INSTRUMENT FLYING

Aeroplanes

Full panel

Straight and level

Turns at given rates

Turns onto given headings

Climbing and descending turns

Limited panel

Straight and level

Turns onto given headings

Recovery from unusual attitudes

Helicopters

Full panel

Straight and level with power and speed changes

Turns at given rates

Turns onto given headings

Climbing and descending turns

Recovery from unusual attitudes

Limited panel

Straight and level

Turns onto given headings

Auto-rotation

Entry, including heading and RPM control

Descent at optimum IAS

Turn into last known wind direction

Recovery to powered flight

Instrument approach procedures

Recovery to base (suitable let-down)

FLIGHT TEST TOLERANCES (AEROPLANES)

The following limits are for general guidance. The Flight Examiner shall make allowance for turbulent conditions and the handling qualities and performance of the aeroplane used.

Height

Normal flight ± 50 feet

with simulated engine failure ± 100 feet

Tracking on radio aids $\pm 5^\circ$

Heading

Normal flight $\pm 10^\circ$

with simulated engine failure $\pm 15^\circ$

Speed

Take-off and approach $+5$ knots/ -0 knots

All other flight regimes

FLIGHT TEST TOLERANCES (HELICOPTERS)

The following limits are for general guidance. The Flight Examiner shall make allowance for turbulent conditions and the handling qualities and performance of the Helicopters used.

Height

Normal flight	±50 feet
with simulated engine failure	±100 feet
Tracking on radio aids	±5°

Heading

Normal flight	±10°
with simulated engine failure	±15°

Speed

Take-off and approach	+ 5 knots/-0 knots
All other flight regimes	± 10 knots
Ground drift	
T.O hover I.G.E	±3 feet
Landing	±2 feet (with 0 feet rearward or lateral flight)

INSTRUMENT RATING FLIGHT TEST SYLLABUS AND FLIGHT TEST CONDITIONS

1 FLIGHT TEST SYLLABUS

1.1 Section 1: Departure Procedure

All pre-departure checks and drills necessary to check and prepare the aircraft and its equipment for the safe conduct of the flight. A visual take-off followed by an instrument climb-out and departure, following the routings published for the aerodrome, unless ATC otherwise directs.

1.2 Section 2: Airways Procedure

Entry into, flight within and departure from airways in accordance with ATC clearance, using tracking facilities as briefed by the Flight Examiner.

1.3 Section 3: ILS Instrument Approach Procedure

An approach to land procedure, as published in the relevant AIP for the facility in use, descending to a specified Decision Height and position from which a direct landing may be made. Both localiser and glidepath must be used.

1.4 Section 4: NDB or VOR Instrument Approach Procedure

This is an approach to land procedure requiring descent to minimum descent altitude/ height (MDA/H). The candidate should follow the published procedure for the facility in use. Following descent to MDA/H, altitude/height should be maintained along the final approved track to a point where either:

- (a) a landing may be safely made; or
- (b) the Missed Approach Point is reached.

In the case of (b) the published Missed Approach Procedure should be carried out. On approaches to land where timing is used to estimate the Missed Approach Point from overhead the final approach fix a candidate may be asked, at some stage on the final approach, to estimate the time or distance to the runway threshold.

Note: At the conclusion of Section 3:

- (a) On reaching Decision Height, the missed approach action to establish a normal climb shall be initiated by the applicant unless otherwise directed.
- (b) The missed approach procedure as published is to be flown unless otherwise as directed, during which the Flight Examiner will also simulate failure of an engine (multi-engine aeroplanes only).
- (c) A safe flight path is to be established with simulated engine failure, followed by identification of failed engine and completion of essential actions. For multi-engine aeroplanes, feathering will be simulated by the Flight Examiner at an appropriate stage.
- (d) A climbing flight path is to be established at the recommended speed, following the published missed approach procedure or as directed by ATC, to a position from which the next instrument approach procedure may commence (Section 4 will be carried out with a simulated engine failure in the case of a multi-engine aeroplane.)

1.5 Sub-Sections

1.5.1 A series of 4 sub-sections are defined to identify procedures or manoeuvres within main sections that need to be carried out in particular circumstances.

1.5.2 *Sub-Station A: Preliminary and External Checks*

The checks specified in paragraph 1.1 up to and including starting engines.

1.5.3 *Sub-Section B: Holding Procedure*

Standard entry into a holding pattern and completion of at least one pattern of the appropriate holding

procedure, including any necessary adjustments to leave the holding pattern at the Onwards Clearance Time or Expected Approach Time, if one has been specified by ATC.

1.5.4 *Sub-Section C: Engine Failure Procedures (multi-engine aircraft only)*

Identification of failed engine and simulated failure procedures. Basic handling and instrument flying following simulated engine failure.

1.5.5 *Sub-Section D: Limited Panel*

Basic handling to cover straight and level flight, turns onto specified headings and recovery from unusual attitudes.

2 TEST CONDITIONS

2.1 Decision Heights and Minimum Descent Heights (or altitudes) must be calculated by the applicant, and agreed by the Flight Examiner.

2.2 During the test the applicant will be expected to carry out all the duties appropriate to a sole flight crew member or, in the case of a test for a multi-crew rating, the handling pilot.

2.3 In the case of a multi-crew rating, the applicant may take the test in either the PIC's or copilot's seat, and will be expected to call upon the other flight crew members to help in accordance with the normal crew drills for that type of aeroplane.

2.4 Where the Flight Examiner occupies the PIC's or co-pilot's seat, he will be designated as PIC. Where he does not occupy either of these positions, the pilot occupying either one of the seats who is not undergoing the test will be designated as PIC who must be authorised by the operator of the aeroplane to act as a training or check captain on type.

2.5 The applicant must indicate to the Flight Examiner the checks and duties which he is performing, including identification of radio facilities. Checks must be in accordance with the authorised checklist for the aircraft, on which the test is being taken. Power settings and speeds should be agreed with the Flight Examiner before the start of the flight, and will normally be those given in the operations or flight manual for the aircraft type in question.

2.6 The applicant, with the remainder of the crew in the case of a test on a multi-crew aeroplane, will be briefed by the Flight Examiner before the test. The applicant will be responsible for ensuring that all equipment and documentation necessary for the planning and execution of the flight is available.

2.7 The Flight Examiner will choose the route for the test. It may start and finish at the same aerodrome or may end at another aerodrome. Applicants cannot decline to fly the nominated route solely because they are unfamiliar with it.

2.8 The Flight Examiner may be called upon by an applicant to check for the presence of airframe icing but will otherwise take no part in the operation of the aircraft except where he considers it necessary to intervene in the interests of safety or to avoid unacceptable delay to other air traffic.

2.9 The test will be assessed assuming that it is the first flight of the day, that the aircraft has been parked outside overnight in freezing conditions, that cloud is entered after take-off at 150 ft above aerodrome level, and that light icing conditions and cloud are forecast at all levels through which the test is conducted.

3 FLIGHT TEST TOLERANCE

3.1 The limits given below are for general guidance. Allowance will be made for turbulent conditions and for the handling qualities and performance of the aircraft used.

	NORMAL FLIGHT	FLIGHT WITH SIMULATED ASYMMETRIC FLIGHT POWER
Height		
(a) In level flight (other than at Decision Height)		
(b) For starting go - around at Decision Height	+/-100 ft	+/-100 ft
(c) Minimum Descent Height/ MAP/ altitude	+50 ft / 0 ft	+50 ft / 0 ft
	+100 ft / 0 ft	+100 ft / 0 ft
Tracking on Radio Navigation Aids	+/-5 deg	+/-5 deg
ILS Approach	half-scale deflection on Localiser and Glidepath	half-scale deflection on Localiser and Glidepath
Heading	+/-5 deg	+/-10 deg
Speed	+/-5 kts (Aeroplanes)	+10/-5 kts (Aeroplanes)
	+/-10 kts (Helicopters)	+/-10 kts (Helicopters)

**DEPARTMENT OF CIVIL AVIATION
MYANMAR**



FLIGHT CREW LICENSING MANUAL

PART 4

TRAINING AND FORMS

PART-4
TRAINING , EXAMINATION PROCEDURES AND FORMS

CONTENTS

CHAPTER – 1	TRAINING PROGRAM
CHAPTER – 2	EXAMINATION PROCEDURES
CHAPTER – 3	FORMS

CHAPTER 1

Training Program

Training Program

1. Introduction

Training is necessary to ensure that before FSD personnel is assigned as licensing officers and staffs. Trainees have acquired the necessary knowledge and have attained the minimum degree of proficiency in the application of that knowledge to perform the duties.

The courses of training which every trainee has to undergo are prescribed in the trainees scheme of service these are:

- (a) Initial Training
- (b) OJT Training
- (c) Recurring Training
- (d) Specialized Training

2. Training for Licensing Officer

2.1. Minimum Qualification

Selection of candidates for FSD Licensing Officers are required to attend the courses shall be in accordance with the following:

- (a) must be holder a bachelor degree
- (b) must be holder a professional pilot license with instrument rating
- (c) must have knowledge of Civil Aviation Regulations (CARs) of the Myanmar

2.2 Initial Training

Initial training for licensing officers included the following courses:

- (a) Personnel Licensing Course
- (b) Approved Training Organization Course

2.2.1 Duration 2 weeks

2.2.2 Personnel Licensing Procedures Course

Course Title	Personnel Licensing Procedures
Course Length	40 Hours
Course Objective	After completing this course the inspector will be able to begin formal on-the-job training (OJT) for the specific job tasks associated with the subject of Personnel Licensing certification.
Course Content	<p>This course provides training on basic personnel licensing procedures and typically includes the following subjects:</p> <ul style="list-style-type: none">• National legislation and State civil aviation regulations that pertain to this subject.• Conduct written tests for personnel licensi• Issue certificates (examples – student pilots and additional aircraft ratings)• Certification of Pilots (examples private pilot, commercial pilot, airline transport pilot, flight instructors, ground instructors).• Certification of other personnel (example – pilot examiners, flight engineer, aircraft dispatcher, special purpose authorization, military competency).

2.2.3 Approved Training Organizations Course

Course Title	Approved Training Organizations
Course Length	40 Hours
Course Objective	After completing this course the inspector will be able to begin formal on-the-job training (OJT) for the specific job tasks associated with the subject of Approved Training Organizations certification.
Course Content	<p>This course provides training on Approved Training Organizations and typically includes the following subjects:</p> <ul style="list-style-type: none">• National legislation and State civil aviation regulations that pertain to this subject.• Conduct certification and renewal of training centers• Inspect training centers (personnel, records or qualifications)• Inspect any Designated examiners at associated with the training center.• Inspect facilities and equipment (example flight simulators or training devices).• Inspect curriculums• Evaluation of airports and aircraft and procedures.

2.3. OJT Training

A minimum of 10 licenses applications assessment under supervision.

2.4. Recurrent Training

Recurrent training must be trained at least every four years.

2.4.1 Duration 2 days

2.4.2 Course Outline

- (a) ICAO SARPs
- (b) National Legislation
- (c) Myanmar Civil Aviation Requirements
- (d) Overview of flight crew licensing
- (e) Amended regulations, etc

2.5. Specialize Training

This training is auditing techniques in relation to flight personnel licensing.

2.5.1 Duration 1 week

2.5.2 Place of training SAA

3. Training for Licensing Staff

3.1. Minimum Qualification

Selection of candidates for FSD Licensing Staffs are required to attend this course shall be in accordance with the following:

- (a) must pass the matriculation exam
- (b) must have knowledge of the office work
- (c) must be proficient in the English language

3.2. Initial Training

Initial training for licensing staffs included the following courses:

- (a) Personnel Licensing Course
- (b) Aviation Training Organization Course

3.2.1 Duration 2 weeks

3.2.2 Personnel Licensing Procedures Course

Course Title	Personnel Licensing Procedures
Course Length	40 Hours
Course Objective	After completing this course the inspector will be able to begin formal on-the-job training (OJT) for the specific job tasks associated with the subject of Personnel Licensing certification.
Course Content	<p>This course provides training on basic personnel licensing procedures and typically includes the following subjects:</p> <ul style="list-style-type: none">• National legislation and State civil aviation regulations that pertain to this subject.• Conduct written tests for personnel licensing• Issue certificates (examples – student pilots and additional aircraft ratings)• Certification of Pilots (examples private pilot, commercial pilot, airline transport pilot, flight instructors, ground instructors).• Certification of other personnel (example – pilot examiners, flight engineer, aircraft dispatcher, special purpose authorization, military competency).

3.2.3 Approved Training Organizations Course

Course Title	Approved Training Organizations
Course Length	40 Hours
Course Objective	After completing this course the inspector will be able to begin formal on-the-job training (OJT) for the specific job tasks associated with the subject of Approved Training Organizations certification.
Course Content	<p>This course provides training on Approved Training Organizations and typically includes the following subjects:</p> <ul style="list-style-type: none">• National legislation and State civil aviation regulations that pertain to this subject.• Conduct certification and renewal of training centers• Inspect training centers (personnel, records or qualifications)• Inspect any Designated examiners at associated with the training center.• Inspect facilities and equipment (example flight simulators or training devices.• Inspect curriculums• Evaluation of airports and aircraft and procedures

3.3. OJT Training

A minimum of 10 licenses applications assessment under supervision.

3.4. Recurrent Training

Recurrent training must be trained at least every four years.

3.4.1 Duration 2 days

3.4.2 Course Outline

- (a) ICAO SARPs
- (b) National Legislation
- (c) Myanmar Civil Aviation Requirements
- (d) Overview of flight crew licensing
- (e) Amended regulations, etc

CHAPTER 2 EXAMINATION PROCEDURES

1 Introduction

The traditional methods of testing flight crews are by written examination and some form of practical test it is usual to expect a candidate to pass all the written exams before undertaking the practical proficiency test. The FSD and CATI of DCA, Myanmar has the responsibility for the organization and conduct of flight crew examinations by preparing papers, selecting the time and place and giving clear instructions to the candidate.

2 Type of Exam

DCA, Myanmar conducts only one type of examination as non-schedule basis.

3 INSTRUCTIONS TO CANDIDATE

3.1 AT THE EXAMINATION

- 3.1.1 Candidates should be present at the examination centre with photographic proof of identity* at least 15 minutes before the scheduled time for the commencement of each examination. A candidate who fails to provide authorised identification should not be permitted to sit and will be subject to forfeit the fee and attempt for that subject. The sitting number may also be affected. Candidates may enter the examination room only after invitation by the Invigilator, during the 10 minutes preceding the start of the examination to prepare examination material. Candidates should not remain in the examination room after the finish of the examination period.

*acceptable forms of photographic ID are:- Valid passport, Myanmar National ID, Photographic Driving Licence, SPL, PPL, CPL, ATPL. **All forms of ID must be photographic.**

- 3.1.2 Coats, bags, books, briefcases, etc., must be placed at the front or rear of the examination room, or as directed by the invigilating officer. Any bags, books, etc., may be removed if left unattended outside the examination room.

NOTE: The DCA will accept no responsibility for any personal items/equipment which a candidate brings to the examination hall and which he/she is not permitted to retain during an examination.

- 3.1.3 Candidates should be also advised that, at all examination centers, a 'no smoking rule' must be observed. They shall not be permitted to take any photographs at DCA examination venues.

3.2 EXAMINATION DATES AND BOOKINGS

- 3.2.1 Applicants wishing to sit an examination must complete the necessary application form and submit it to the Flight Crew Licensing section indicating the preferable date & time.

- 3.2.2 Deputy Director of the Flight Crew Licensing Section should be informed of the date and time of the exam.

- 3.2.3 Oral exams (ELPC & RT) shall be conducted on any day depending on the availability of the Examiners.

3.3 AMENDING AN EXAMINATION BOOKINGS

- 3.3.1 Examination bookings cannot be amended in the five clear working days prior to Day One of the examination week that the examination booking is contained within. Cancellations/transfers will only be accepted if received in writing at least five clear working days before Day One of the examination week, if accompanied by the cancellation/transfer fee as specified in the current scheme of fees and levied by DCA. Cancellations/transfers requested within these five clear working days are subject to the loss of the subject fee. Refund of examination fees for emergency cancellations or nonattendance will only be given if a valid medical certificate (original) is provided, together with a letter of explanation.

Note: For DCA purposes, working days are Monday to Friday (excluding public holidays).

- 3.3.2 Where a candidate does not show for a booked examination(s), the fee for those subjects will be non-refundable and non-transferable. For any subjects not attempted within a sitting, when having attempted at least one subject, the fee(s) and attempt(s) are non-refundable and non-transferable.
- 3.3.3 On occasions when there is a possibility of disruption to public transport services, for whatever reason, candidates are expected to make alternative arrangements for attendance or if appropriate to give formal notice of their inability to attend.

3.4 MATERIALS USED IN THE EXAMINATION

- 3.4.1 When necessary the following reference books and tables will be supplied to each candidate but they must not be marked in any way or removed from the examination room:
 - (a) Mass and Balance Manual as approved by the DCA
 - (b) Flight Planning Manual as approved by the DCA
 - (c) Performance Manual as approved by the DCA
 - (d) Student Pilot Route Manual as approved by the DCA
 - (e) A scientific, non-programmable, non-alphanumeric calculator without specific aviation functions
- 3.4.2 Candidates will be required to provide themselves with all the necessary drawing and calculating instruments, e.g. dividers, compasses, protractors, parallel rules, slide rules and navigational computers. Candidates may use their own pens, pencils, highlighters etc. On the rough working paper provided. Documents provided by the DCA must not be marked in any permanent way (if pencils are used in DCA manuals, all marks must be erased before they are collected by the invigilator). No pencil boxes, containers or instrument cases are permitted on tables.
- 3.4.3 The use of slide rules or instruments containing printed information on critical point, Point of no Return, distance to the horizon, convergency, conversion angle, dep/d'long, conversion factors, etc. are not permitted.

3.5 REGULATIONS APPLICABLE FOR THE CONDUCT OF EXAMINATIONS

- 3.5.1 Candidates will not be allowed to use any loose paper other than that provided at the examination by the DCA. All papers issued and documents provided by the DCA shall be returned with the answer sheet to the Invigilator on completion. Failure to comply with this rule may result in disciplinary action being taken.
- 3.5.2 Answer sheets must be completed using the pencil provided or their own one if accept by invigilator. Candidates may use other writing implements on the rough working paper or on their own documents.
- 3.5.3 Demonstration on how to attend to a computerized examinations session &, applicable Rules and Regulations about computer based examinations should be provided to applicants before starting each computer based examination.
- 3.5.4 Silence is to be observed in the examination room at all times. Alarms from wristwatches and key rings are not permitted. Mobile telephones, pagers etc. must be switched off and left in the candidate's personal belongings and must not be in person.
- 3.5.5 If a candidate wishes to speak to an invigilating officer, they should remain seated and raise their hand. The invigilating officer will consider only those questions from candidates which relate to the general conduct of the examinations and both parties should not enter into discussion on the interpretation of words or questions contained in the examination papers.
- 3.5.6 A candidate shall leave the room only with the permission of the invigilating officer if he/she has finished an examination before time, except during the last 5 minutes (after the warning is given) before the end of any paper.

- 3.5.7 In computer based examination, applicant does not damage to any hardware or software of the computer.
- 3.5.8 Candidates are to stop work and put pencils down immediately when so directed and must remain seated and quiet until all answer material has been collected. Failure to comply with this rule may result in disciplinary action being taken.
- 3.5.9 Any candidate who attempts to remove unauthorized examination materials/papers from the room will be liable to disqualification from those examinations which have been taken and may be subject to special arrangements for any future examinations.
- 3.5.10 If a candidate chooses to ignore any of the above regulations, he/she may be asked to leave the examination room.

3.6 EXAMINATION RESULTS

- 3.6.1 Candidates should not telephone in as we always endeavour to work to the timescales and results dispatch enquires before the published dispatch date only serve to delay the process.
- 3.6.2 Results of a computer based exam are issued as soon as possible after finishing an examination.
- 3.6.3 In normal circumstances results will be dispatched by registered post or air mail within fifteen working days after of the examination date. Results will not be dispatched until any outstanding payments have been received. It is not possible to collect your results on the day of dispatch, simply because one candidate could enjoy a time advantage over another.
Examination results cannot be e-mailed, Faxed or advised via the telephone.
- 3.6.4 The DCA officers cannot enter into discussion or correspondence with candidates on the subject of their examination results, but candidates may apply for any paper to be re-marked except computer based examinations on payment of the fee as stated in the Scheme of fees and levied by DCA, together with a written request.
- 3.6.5 Result sheet should be included at least the following information
- I. Logo of the Authority
 - II. name of the Authority
 - III. the type, level and date of examination
 - IV. Name of Candidate
 - V. Index No
 - VI. a breakdown of subject/s
 - VII. the score
 - VIII. the margin of pass mark
 - IX. the signature of examiner
- 3.6.6 After complete examination related to the each Level, DCA should issue a examination completion certificate to candidate. Candidate should make a payment for the examination completion certificate if charged.

3.7 FAILURE TO COMPLY WITH EXAMINATION REGULATIONS

- 3.8 Any infringement of examination regulations may result in the candidate being disqualified in any subject that has been taken and barred from further participation in future examinations. Immediate removal from the examination room may be imposed if a candidate chooses to ignore any of these regulations.

4 CONDUCT OF EXAMINATIONS

4.1 PREPARATION

- 4.1.1 The invigilator shall be at the exam centre in sufficient time before an exam begins in order to address adequately the necessary administrative preliminaries. An Invigilator unable to attend the exam due to unforeseen circumstances shall inform the affected candidates directly as soon as possible. The Invigilator shall NOT employ/utilize a non-approved person as a substitute. The invigilator must not engage in other activities likely to reduce the standard of the primary task of supervision or distract candidates.
- 4.1.2 The invigilator shall ensure there are sufficient supervisors, if required, to effectively assist in the proper conduct of an exam. The minimum number of supervisors shall be such that there is ALWAYS one Invigilator at all times during the exam. Candidates must NOT be left unsupervised during an examination or in the examination room.

4.2 THE EXAMINATION ROOM

- 4.2.1 The Invigilator is responsible for ensuring (at least) that the examination room is properly equipped and prepared for the exam sitting, with particular emphasis on:
- I. observance of relevant building, health and sanitation regulations;
 - II. safety for the occupants;
 - III. emergency considerations;
 - IV. control of access;
 - V. cleanliness;
 - VI. no unnecessary material lying around, particularly those that may lend unfair assistance to the candidates. This includes charts, diagrams or textual information on boards and walls;
 - VII. a wall clock or other time indicator so candidates can be aware of the time available to them;
 - VIII. correct level of lighting;
 - IX. correct level of ventilation;
 - X. an environment free from unacceptable noise level, distraction and non-exam activity (place sign stating **Do Not Disturb – Examination in Progress** on all doors during the exam session);
 - XI. telephones set to *call diversion enabled* or minimum ringer volume;
 - XII. comfortable seating for candidates;
 - XIII. clean toilet facilities nearby;
 - XIV. a table for the supervisor;
 - XV. a table for each candidate, large enough for a PC system (if used) and permitted exam material. Where a PC is used, then the space between tables on the same row shall be at least 1.5 meters between the sides of the PC monitor;
 - XVI. allocation of candidates to seating that will minimize disturbance if some have a shorter examination than others;
 - XVII. general security aspects.

4.3 PRELIMINARIES

- 4.3.1 Prior to the exam sitting, carry out the administrative 'preliminaries' by recording the following details in the attendance sheet:
- I. Index Number and name of candidate;
 - II. Date and time of sitting;
 - III. Exam type (e.g. ATPL (A));
 - IV. Instruct the candidate to sign in the attendance sheet;
 - V. Instruct the candidate to place all other personal belongings at the front of the room or in a secure location where these may not be accessed during the exam sitting;
 - VI. Ensure that each candidate is correctly seated at the assigned table which has the correct exam supporting documents, where required, for the relevant exam type. This is important when different exam types are being sat at the same time;
 - VII. Check that each candidate has only the permitted material for the exam. Permitted documents should be examined for hidden unauthorized material or notation; this may be carried out before and during the sitting but ensure that, in the case of the latter, the candidate is not

- unduly distracted nor interrupted. Check permitted documents e.g. AIP, MCARs, for falsified pages;
- VIII. Instruct the candidate to actuate the ON/OFF switch of any electronic calculator, and perform any other function that enables erasure of any data stored in memory circuits.
 - IX. Advise the candidate(s) that they may read the *"Instructions to Candidates"* and only that material in the examination folder. Allow them time to do this and answer any questions arising.
 - X. Where a PC is used, check that the candidate knows how to operate a computer mouse and a scroll bar if he/she doesn't, then, in Cyber Exams, activates the Practice Exam available under the IT group in the supervisor menu. In other situations, give sufficient basic instruction or defer the exam for that candidate until they are sufficiently computer literate.
 - XI. Where appropriate, inform the candidate that Cyber Exams has a 'Practice Exam' which will guide the user through the screen based system, and that this process does **not** constitute any part of the allowable time for the actual exam and emphasize that it would be to the candidate's own advantage if this facility is fully utilized. State that, at the end of the 'Practice Exam', the system will display a message prompting (asking) whether the candidate is ready to commence the actual exam. Inform the candidate the 'Practice Exam' may be bypassed, if so desired, to proceed straight to the actual exam – the system offers this option through the submit exam button of the 'Practice Exam' screen.
 - XII. Inform the candidate that the PC should be operated only to perform functions necessary to complete the exam.
 - XIII. When all is ready, draw the candidates' attention to the time, advise the finishing time(s) and give a clear instruction to start the examination.

4.4 DURING THE EXAM

- 4.4.1 Allow no one, other than another Invigilator on duty (if detailed), approved DCA staff, and a candidate returning from the toilet to enter the exam room.
- 4.4.2 Allow only one candidate to visit toilet at any one time.
Note: Candidates have been known to secrete unauthorized material in toilets, and view these on visits during the exam period – check the toilet for any such material.
- 4.4.3 Ask candidates to leave contents of pockets in invigilators care or ask candidates to reveal pocket contents before exam.
- 4.4.4 Invigilator must monitor and control the candidates continuously during the exam. He/ she should:
 - I. ensure a candidate remains seated at their assigned place, unless visiting the toilet;
 - II. ensure candidates do NOT talk among themselves or carry out a discussion (on any matter) while in or nearby the exam room;
 - III. not permit any candidate to carry out disruptive activities (e.g. whistling, humming loudly, singing, grumbling, voicing aloud an exam question, tapping on the table). If these activities still continue after an appropriate warning, instruct the candidate to leave the exam room and record the event;
 - IV. ensure a candidate does **NOT** use a headset, 'walkman' portable CD players, mobile telephone (particularly for SMS or text messaging), pager, or any communication/electronic device (other than the provided and/or permitted electronic calculator);
 - V. not permit candidates to borrow or share required reference books or any materials (pencils, rulers, erasers, etc) from other candidates;
 - VI. if necessary, explain that it is NOT the invigilators responsibility to provide or source material for the candidate that should have been self supplied;
 - VII. ensure that there is be NO communication whatsoever between/among candidates during the exam session;
 - VIII. Periodically walk around the room to check that candidates meeting all requirements for fairness and security and are not cheating.
 - IX. not hesitate to exercise your authority to expel a candidate from the exam room for misbehavior, should the situation warrant such action and as invigilator to control the exam sitting.

4.5 IF A CANDIDATE LEAVES THE EXAMINATION ROOM:

- 4.5.1 During an exam session, other than in an emergency requiring the evacuation of the room, a candidate may only leave the exam room for three reasons:
- I. When the exam has been completed – standard procedures apply.
 - II. When visiting the toilet. If this is requested:
 - (i) one candidate at a time shall be allowed to the toilet. As far as is practical, supervise/escort the candidate and do **not** permit any exam material to be taken out of the exam room;
 - (ii) advise the candidate that the allocated time for the exam will continue to run.
 - III. When deciding to prematurely end the sitting.

4.6 CANDIDATE UNWELL

- 4.6.1 If a candidate is unwell the Invigilator should ask whether the candidate wishes to continue the examination or sit afresh at another date without penalty. It should be made clear that if the candidate chooses to continue no allowance can be made when assessing the papers. If the illness is such that immediate assistance is required and no telephone is available, the only possible action is to ask another candidate to go for help. The candidate who goes should be the invigilator's choice and should preferably be one who is clearly getting on well with his own examination. If the sick candidate cannot continue the examination, a note should be made of the time and the circumstances. Extra time should obviously be allowed to the 'Messenger'.

4.7 IMPROPER CONDUCT

- 4.7.1 If it becomes evident that a candidate is, or has been cheating, the fact that it has been observed should be brought to the attention of the candidate. Unless the Invigilator considers an irregularity to be so serious that it warrants an immediate ending to the examination, the candidate should be told that the matter will be reported and then allowed to continue if he wishes to do so. A warning should be given that this matter will be considered when the paper is marked.
- 4.7.2 It is left to the discretion of the Invigilator as to what action to take particularly bearing in mind the possibility of appeals, which may arise from disturbing other candidates. The decision to terminate any examination by cheating of the candidate is at the discretion of the Invigilator/supervisor. If possible a line should be marked across the paper at the time of the infringement and signed by the Invigilator/supervisor.

4.8 CHEATING

- 4.8.1 During an examination, candidates may attempt to acquire information illegally which will be of assistance to them in answering questions. Such attempts may include:
- (i) Openly viewing another candidate's script;
 - (ii) Talking or whispering;
 - (iii) Signaling to each other;
 - (iv) Note on piece of paper or in pencil cases;
 - (v) Information deliberately displayed on walls and ceilings;
 - (vi) Notes written on various parts of the body;
 - (vii) Notes slipped from one candidate to another;
 - (viii) Notes left in toilets;
 - (ix) Covertly recording oral examinations for passing to other candidates;
 - (x) Bags containing notes or books left open near the desk;
 - (xi) Removal of notes of questions from the exam room to pass to other candidates.
- 4.8.2 Action to be taken by Flight Standards Division on Cases of Suspected Cheating:
- (i) Provide all details pertaining to the candidate and previous examination record;
 - (ii) Provide all details pertaining to the examination under question;
 - (iii) Provide a copy of the conducting officers report;
 - (iv) Provide details of any internal Authority investigation;

- (v) Make recommendations to the Director General of Civil Aviation as to the action could be taken.

4.9 PENALTIES

- 4.9.1 Penalties resulting from improper conduct or cheating will be determined by Director General of Civil Aviation.

4.10 ON COMPLETION OF EXAM

- 4.10.1 At the end of the exam, when the allowable time has expired or after the candidate has submitted the exam papers and before permitting the candidate to leave their exam station, ensure that:
 - I. Multi-choice Answer Sheets and Essay Papers have been signed and dated;
Note: The signature is the primary proof of identity; the date is important in case of appeals.
 - II. all supplied exam documents are retrieved and fully accounted for;
 - III. details of any matters that made the particular examination different from normal in any way are noted in pencil on the candidate's paper (e.g. Candidate arrived 15 minutes late and allowed allocated time)
 - IV. when an electronic calculator has been permitted and used, instruct the candidate to actuate the ON/OFF switch of the electronic calculator, and perform any other function that enables erasure of any data stored in memory circuits
 - V. When a PC has been used, take the PC over from candidate and print out any necessary information. Then shut down the PC.

5 EXAMINATION PAPERS

5.1 PREPARATION OF PAPERS

- 5.1.1 The Authority holds a number of versions of the question papers for most of the examination subjects for which it conducts examinations. The variations between the papers come about from:
 - I. presentation of questions in a different order from one paper to another;
 - II. a range of different questions, although some questions may appear in more than one paper;
 - III. a range of different answers options for the same question, but always with the correct answer presented in the same way; and
 - IV. rearrangement of order in which the answer options are presented.

5.2 ROTATION OF PAPERS

- 5.2.1 In order to minimise the opportunity for a candidate to sit the same paper on subsequent occasions, the Examination Officer (EO) shall establish a system to achieve that objective. Either of the following would be acceptable:
 - I. A list of candidates, identified by both name and Identification number shall be established and for each candidate there shall be a list of examinations undertaken, including which version of the paper was attempted, the date of the attempt and the result; or
 - II. A list of the various examination papers, including the different versions of the papers and for each version of each exam there shall be a list of candidates by both name and Identification number who have attempted that particular paper, the date of the attempt and the result.
- 5.2.2 When a candidate indicates that they wish to attempt a particular examination, the EO shall ascertain whether the candidate has attempted that examination before. If they have, then the EO shall ensure that the version presented to them is, as far as possible, not a version that they have attempted before. Obviously, when the number of attempts exceeds the number of version, a candidate will have to repeat a paper. In this case, the version they are given to attempt should be the one they attempted least recently.

6 REVIEW OF EXAMINATION PAPERS

- 6.1 It is good practice to regularly review examination question papers so that they remain effective. With this in mind, the EO should arrange for all papers to be reviewed over a period of approximately 3-4 years. As the task will require some resources, it would be desirable for the review work to be staggered

so that the workload can be spread out. The EO is to produce a roster of all papers and their approximate review dates.

- 6.2 Additionally, when there is any change in legislation or standards documents, the control sheet(s) for that change process are also required to have a section that calls for a review of Air Law exams as part of the legislation or standards change process. This is to ensure that no exam has a question that related to law that has been superseded or revoked.

7 RE-MARKING EXAMINATIONS

- 7.1 Candidates who dispute their results may request a re-mark of the examination.
- 7.2 The request must be made in writing to the Director of Flight Standards Division of the relevant discipline or other authorized officers. A different person from the one who carried out the initial marking shall carry out the re-mark.
- 7.3 The relevant officer re-marks the examination and notifies the candidate of the results of the re-mark in writing.
- 7.4 All correspondence associated with the re-mark is filed in the candidates personnel file.

8 SECURITY OF EXAMINATION PAPERS

- 8.1 The masters of all examination papers are stored in a lockable cabinet in the Examination Office. The EO has primary access to this cabinet, but a back-up key is available through corporate management.
- 8.2 Photocopies of used examination papers are to be destroyed by shredding.

9 APPEALS

- 9.1 A candidate may only appeal against the conduct of the examinations and not against the technical content, therefore it is important that the guidelines contained within this procedure are adhered to. It will then be possible for the Authority to counter any possible appeal in the most effective manner. The Authority will have to determine whether the examination was properly conducted.
- 9.2 On receipt of a written appeal, the EO will:
- (i.) Register particulars on computer;
 - (ii.) Advise candidate that appeal is received and have been sent for action;
 - (iii.) Liaise with relevant Officers regarding the matter; and
 - (iv.) Arrange appeal hearing date and venue.

10 EXAMINATION BOARD

- 10.1 Examination Boards are appointed by DGCA and should not exceed seven members. The DGCA has power to terminate examination board member appointments at anytime if they are unsatisfactory in their performance.
- 10.2 Qualification of Examiners
- (a) Must be holder of a bachelor degree.
 - (b) Must have minimum two years experience on related field.
 - (c) Must have knowledge of the Civil Aviation Regulations (CARs) of the Myanmar.
 - (d) Must have knowledge of the ICAO SARPs.
- 10.3 Examination Boards are teams of experts whose overall tasks are defined within the scope detailed below. The flight crew licensing section is responsible for coordinating, supervising and reviewing the work of the Examination boards. Their specific tasks are to:
- (a) Process validation of questions in the QB of flight crew licensing section in the subject(s) for which they are responsible;
 - (b) review the syllabi, learning objectives, related QB questions and the distribution of examination questions, and advise the flight crew licensing section on the need for any changes;
 - (c) ensure the quality of associated appendices to QB questions;

- (d) initiate reviews to QB questions in accordance with the feedback and amendment procedure to ensure the quality control of the QB;
 - (e) make written reports to the flight crew licensing section on work in progress for review at each Boards meeting; and
 - (f) advise the flight crew licensing section on matters of fact in any dispute.
- 10.4 At least once a year a joint meeting will be arranged between the relevant officers of flight crew licensing section and the Examination Boards. This meeting will be an open forum to discuss all aspects of the theoretical knowledge process.

11 THE QUESTION BANK

- 11.1 The Question Bank (QB) for the Pilot examinations will be administered and maintained in flight crew licensing section of FSD and will have overall responsibility for the technical contents of the questions.
- 11.2 Multiple-Choice Questions (MCQs) which have been provided throughout the industry or suitable expert or any other suitable foreign civil aviation organization, are verified and validated by examination board for inclusion in the QB.
- 11.3 Each MCQ is intended for use in DCA theoretical knowledge examinations, and is identified by a unique number - its MCQ number. Some questions require reference to the use of graphs, diagrams and charts. In such instances, appendices or DCA approved manuals will be used. A cross-reference is made between the question and the appendix by printing the MCQ number on the top right hand corner of each appendix. When a question refers to the use of one or more appendices this is specified in the question.
- 11.4 Validation Process: All MCQs are approved at the outcome of a validation procedure. The purpose of this validation procedure is to apply a means of quality control. The content and parameters of each MCQ are validated by the examination board responsible for each one of the subjects. This validation procedure is detailed below:
- (a) **Introduction:** The validation process is carried out by the responsible examination board and is intended to ensure the integrity of the questions used by DCA. Questions are to be processed in batches for each subject. The number of questions in each batch is not fixed but, in order to allow time for thorough consideration of the questions should be limited to no more than seventy five. The final decision regarding the validity of individual question is the examination board duly appointed by the DGCA.
 - (b) **Submission of questions:** The responsible person in FCL section shall request the Industry or individual expert or foreign aviation organizations to submit questions. Questions must be composed in English. Ideally, questions should be submitted in the correct format with correct syllabus and textual references as applicable to each question. The multiple questions should be comprised with four answers and one of these four answers should be the most appropriate answer. Where appropriate, a justification rather than a textual reference may be acceptable. Where a calculation is involved the originator should include an explanation of the sums used.
 - (c) The proposed questions will be entered into the QB, and assigned a unique identification number. A new question will never be given a number which has already been used. When a question is deleted from the bank its individual number is deleted also. New questions must be sent directly to the QB authority. If sent in error to the examination board, they will be returned to the sender. The examination board will not attempt to validate questions unless they have been allocated an identification number by the QB authority.
 - (d) Validation Phase 1: At intervals, the newly submitted questions will be sent from the QB authority to the respective examination board. Once these questions are received, the examination board is required to select the questions for validation. The examination board will highlight the MCQ identification numbers that have been selected for validation. The QB authority will then allocate a unique identification code for those MCQs (number and date).
 - (e) This validation process requires that the Board:
 - I. ensures that each question is correctly referenced to the syllabus.
 - II. ensures that the question content is covered by the learning objectives.
 - III. ensures that the question is factually correct, appropriate to the licence type and level indicated and that the correct answer is that indicated as the first choice. Where a

calculation is involved, the board member must satisfy himself that the solution is correct.

- IV. ensures that the academic level is appropriate to the licence level indicated and that the score and length allowed for each question are realistic compared to the work involved in deriving the answer. There should be some relationship between the work involved, the time allowed and the score.
 - V. ensures that the question is not already in the bank. (each examination board has the relevant validated questions to date)
 - VI. ensures, as well as can be achieved at this stage, that the English language is correct, unambiguous and grammatically correct.
- (f) Having addressed the batch of questions, the examination board may accept or reject questions. Individual questions may be modified, where necessary, to meet the requirements. These modifications should be highlighted and returned to the QB authority where the QB will be updated. Where modifications have been made, this should be indicated to the bank separately in order to allow a final check.
Note 1: All questions must be returned to the bank whatever their status (accepted in its original form, accepted after modification, deleted). The bank must be kept up to date with this information.
- (g) The examination board has two months after the examination board initial decision to validate these questions. If any delays are expected, then an extension to this time must be requested of the QB authority in writing. Once finally satisfied with the batch of questions, the examination board will return them to the QB authority with their status. (Validated with or without modification or rejected).
Note: All the questions must be returned. Otherwise, the status of individual questions decided by the examination board will not be able to be integrated into the computer software programme.
Warning: The MCQ must be dealt with in batches as and when received. All the MCQs present in a batch must be considered. None should be added to the initial batch (e.g. to make it up to 75 during the validation process)
- 11.5 To ensure that all MCQs in the QB remain valid, and reflect technical developments and changes in aeronautical regulations, a feedback system and amendment procedure is required. Revisions to MCQs will be made within the scope defined as follows: When DGCA decides that, in its opinion, a MCQ is unsuitable for use or considered a doubtful question (either during compilation or after the examination has been taken), that DGCA will ask the examination panel to review the MCQs. Doubtful questions are considered as; not in the syllabus, have no correct answer, have unclear language, have no syllabus reference, or are not part of the Learning Objectives. The information will be reported with a full justification as to the reason why the MCQ is required to be deleted or amended. When the examination board has completed its work, it will send its evaluation back to DGCA and the QB to be updated accordingly.
- 11.6 Changes made to MCQs during an amendment period will be highlighted in the QB when the updated release is distributed. This will prevent Authorities utilising out of date or obsolete MCQs.
- 11.7 Updating the Question Bank All the questions included in the question bank shall be updated every five years annually in the following manner.
1. Expiry Date of a question is five years from the date of input.
 2. Annually addition of 5% or more questions is required through the validation process
 3. Minimum number of questions in any one subdivision of questions shall be maintained throughout for the conduct of an examination in that particular area.
 4. Maintenance of Question Bank is the responsibility of the designated administrator.
- 12 AMENDMENTS TO THE SYLLABUS, LEARNING OBJECTIVES AND MCQS**
- 12.1 Amendments to the Syllabus, Learning Objectives and MCQs will be necessary from time to time in order to act on proposals for changes from all parties involved in the theoretical knowledge training and examination process. In such instances, an amendment cycle has been developed and is detailed in

paragraphs (a), (b) and (c). It should be noted that a proposal for an amendment to the Syllabus, Learning Objectives or MCQs could impact a change to the other(s).

(a) **Amendment to the Syllabus:** When a proposal for amendment to the syllabus is made, DGCA will then forward the proposal to the relevant examination board to review the proposal. After consideration and justification of the proposals, the relevant examination board is authorised to send the final draft proposal to the DGCA for further action in accordance with the procedures for changes to licensing requirements. In cases where the examination board does not justify the proposal for amendment to the syllabus, the DGCA shall be informed and will advise the proposer of the final outcome.

Note: When a proposal is made directly from an examination board responsible for its own subject, the proposal can be forwarded directly to the DGCA.

(b) **Amendment to the Learning Objectives:** When a proposal for amendment to the Learning Objectives is made, the DGCA will then forward the proposal to the examination board to review the proposal. After consideration and justification of the proposals, the examination board is authorised to send the final draft proposal to the DGCA. DGCA will incorporate the amendment into the Learning Objectives, and will publish this information by suitable means. In cases where the examination board does not justify the proposal for amendment to the Learning Objectives, the DGCA shall be informed and will advise the proposer of the final outcome.

Note: When a proposal is made directly from a examination board responsible for its own subject, the proposal can be forwarded directly to the DCA.

(c) **Amendment to MCQs:** As a result of amendments to the syllabus and/or learning objectives, or, as a result of ongoing monitoring of questions in its own subject, an examination board may identify the need for changes to MCQs. In this instance the examination board will send the updated MCQs to the QB. The task of notifying amendments and changes to official and legal documents (JARs, ICAO Annexes and Documents, etc.) to each examination board rests with the DGCA or representative of DGCA. The DGCA will make appropriate arrangements for examination board to have direct access to the relevant documentation.

12.2 Any new or amended MCQs generated as a result of changes to the Learning Objectives cannot be included in an examination for a minimum period of 6 months after publication of the Learning Objectives. This notice period is intended to permit FTOs time to adjust their teaching and amend all training courseware to reflect the change.

13 METHODS OF EXAMINATION

13.1 The method of presenting the examination may vary according to the facilities available within individual examination. Some examinations shall be stored all of the questions and answers to QB and use a computer system directly accessed by the candidate or computer generated hardcopies.

13.2 Scoring for each question should be indicated with the question. The pass mark is mentioning in front page of the hardcopies or instruction page of computer basis system. Minus marks will not be deducted for incorrect answers

13.3 Statistics of examinations Authorized officer in flight crew licensing section/ CATI is responsible for keeping statistic of every examinations. It may be computerized and/or hardcopies.

CHAPTER – 3

FORMS

FLIGHT CREW LICENSING FORMS

This chapter provides flight crew licensing forms that are a part of the personnel licensing system of Myanmar.

No	Form Number	Title
1	CA Form 103 A	APPLICATION FOR RENEWAL OF A PROFESSIONAL PILOT'S LICENSE
2	CA Form 103 B	APPLICATION FOR THE INCLUSION OF AN AIRCRAFT TYPE IN THE AIRCRAFT RATING OF PILOT'S LICENSE (FLYING MACHINES)
3	CA Form 103 D	APPLICATION FOR A COMMERCIAL PILOT'S LICENSE(FLYING MACHINES)
4	CA Form 103 F	APPLICATION FOR AN AIRLINE TRANSPORT PILOT'S LICENSE
5	CA Form 103 V	APPLICATION FOR VALIDATION OF A PILOT LICENSE
6	CA Form 105	PROFICIENCY CHECK
7	CA Form 118	INITIAL/RENEWAL/SPECIAL MEDICAL EXAMINATION
8	CA Form 187	INSTRUMENT RATING FLIGHT TEST(RENEWAL)
9	CA Form 120	MEDICAL ASSESSMENT FOR FLIGHT CREW INITIAL/RENEWAL/SPECIAL
10	CA Form SPL	APPLICATION FOR STUDENT PILOT'S LICENSE
11	CA Form PPL	APPLICATION FOR PRIVATE PILOT'S LICENSE