

CIVIL AVIATION AUTHORITY PAKISTAN

**AIR NAVIGATION ORDER
NO: 90.0004
ISSUE: ONE**

LICENCES & RATINGS - AIR CREW

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1. **AUTHORITY**

This Air Navigation Order (ANO) is issued by the Director General, Civil Aviation Authority in pursuance of the powers vested in him under Rules 4, Rule 35, Rule 36, Rule 37, Rule 38, Rule 39, Rule 40, Rule 42, Rule 43, Rule 58, Rule 340, Rule 342, Rule 347, Rule 348, Rule 354, Rule 355, Rule 357, Rule 359 and 360 of the Civil Aviation Rules, 1994 (CARs 94).

2. **SCOPE**

- 2.1. This ANO relates to the administrative requirements for a Licence or a Certificate;
- 2.2. This ANO relates to the issue and maintenance of aircrew Licences, Certificates and Instrument Rating;
- 2.3. This ANO relates to the skill requirements for pilot Licences, Certificates and Instrument Rating;
- 2.4. This ANO relates to the endorsement of Type Rating on aircrew licence;
- 2.5. This ANO relates to the conduct of skill/flight test/check; and
- 2.6. This ANO relates to the crediting and logging of flying time in the pilots' logbook.
- 2.7. All persons desiring to pilot an aircraft registered in Pakistan shall comply with the instructions contained in this ANO, ANO No. 90.0001, ANO NO. 90.0002, ANO on the specific Licence and Instrument Rating, Air Safety Circulars (Lic), Personnel Licensing Manual and instructions issued by the Licensing Authority from time to time.

3. **EFFECTIVE DATE**

- 3.1. This ANO shall come into force with immediate effect.

4. **DEFINITIONS**

- 4.1. **“Authority”** means the Civil Aviation Authority, Pakistan, established under section 3 of Civil Aviation Authority Ordinance 1982.
- 4.2. **“Aeroplane”** means a power-driven heavier than air aircraft deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight;
- 4.3. **“Aircraft - Category”** Classification of aircraft according to specified basic characteristics, e.g., aeroplane, helicopter, glider, free balloon.

- 4.4. **“Aircraft – Certificated for Single-Pilot Operation”** A type of aircraft which the State of Registry has determined, during the certification process, that it can be operated safely with a minimum crew of one pilot.
- 4.5. **“Aircraft – Similar type of”** All aircraft of the same basic design including modifications thereto except those modifications, which result in a change in handling or flight characteristics.
- 4.6. **“CAA”** means Civil Aviation Authority of Pakistan.
- 4.7. **“Centre-line Thrust Aeroplane”** means an aeroplane that has the following characteristics:
- 4.7.1. the aeroplane has two or more engines; and
- 4.7.2. the failure of one or more of the engines does not produce asymmetric handling qualities in the aeroplane.
- 4.8. **“Co-Pilot (P-2)”** means a licensed pilot serving in any piloting capacity other than as pilot-in-command but excluding a pilot who is on board the aircraft for the sole purpose of receiving flight instruction.
- 4.9. **“Flight Check”** means a test of practical Knowledge and Skill.
- 4.10. **“Skill/Flight Test”** means flight check.
- 4.11. **“Multi-pilot Operation Aircraft” (MPA)** An aircraft manufactured by the manufacturer for multi-pilot operation or certificated by the Competent Authority for multi-pilot operation in accordance of nature and type of operation.
- 4.12. **“Pilot-in-Command (P-1)”** means the pilot responsible for the operation and the safety of the aircraft during flight time.
- 4.13. **“Pilot-in-Command under Supervision (PICUS)”** means to fly:
- 4.13.1. as Co-Pilot (Right seat for aeroplane and left seat for Helicopter) performing under the supervision of the pilot-in-command, the duties and function of a pilot-in-command; or
- 4.13.2. as Pilot-in-command under the supervision of rated Flight Instructor while receiving training for grant, renewal and/or re-validation of Private, Commercial, Airline Transport Pilot's Licence or Instrument and Instructor rating.
- 4.14. **“Rating”** means an authorization entered on or associated with a licence or certificate and forming part thereof, stating special conditions, privileges or limitations pertaining to such licence.
- 4.15. **'Accepted/Acceptable'** means not objected to by the Authority as suitable for the purpose intended.
- 4.16. **'Aircraft'** means a machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

- 4.17. **'Aircraft Type'** as used with respect to;
 - 4.17.1. licensing and operations of flight crew
 - 4.17.2. type certification of aircraft
- 4.18. **'Approved by the Authority'** means documented by the Authority as suitable for the purpose intended.
- 4.19. **'Civil Aircraft'** means any aircraft on the civil register of a State, other than those which that State treats as being in the service of the State, either permanently or temporarily.
- 4.20. **'Commercial Air Transportation'** means the transportation by air of passengers, cargo or mail for remuneration or hire.
- 4.21. **'Co-pilot'** means a pilot serving in any piloting capacity other than as pilot-in-command or commander but excluding a pilot who is on board the aircraft for the sole purpose of receiving flight instruction for a licence or rating.
- 4.22. **'Flight Time'** as used with respect to;
 - 4.22.1. licensing of flight crew.
 - 4.22.2. aircraft operations,.
 - 4.22.3. type certification of aircraft.
- 4.23. **'Instrument'** means a device using an internal mechanism to show visually or aurally the attitude, altitude, or operation of an aircraft or aircraft part. It includes electronic devices for automatically controlling an aircraft in flight.
- 4.24. **'Licensing Authority'** means the Authority, established by the Director General, Civil Aviation Authority, responsible for Licensing of Personnel under the CARs.

Note: *All words and terms used for various persons, aircraft and authorities in this ANO, shall be interpreted and construed as defined. In all other cases, they shall be construed as defined and used by the International Civil Aviation Organization.*

5. **ATTACHMENTS**

- 5.1. APPENDIX 'A': Skill Test guide for PPL.
- 5.2. APPENDIX 'B': Skill Test guide for CPL.
- 5.3. APPENDIX 'C': Skill Test guide for IR.
- 5.4. APPENDIX 'D': Skill Test guide for ATPL.
- 5.5. APPENDIX 'E': Multi-Crew Cooperation guide.
- 5.6. APPENDIX 'F': CAA Forms – Aircrew Licensing

6. **ADMINISTRATIVE REQUIREMENTS**

6.1. **MINIMUM AGE**

- 6.1.1. No person, under seventeen years of age, shall have sole control of an aircraft in motion and no person shall cause or permit any other to have sole control of an aircraft in motion.
- 6.1.2. The minimum age for the grant of a Student Pilot Licence is 17 years.

6.2. **DATE OF BIRTH (DOB)**

- 6.2.1. An applicant for the initial issue of a personnel licence is required to provide evidence with the application, a Certificate of Matriculation or equivalent educational certificate, which states his date of birth (DOB).
- 6.2.2. Once a date of birth has been established by the Authority, that date shall be adopted for all matters relating to Personnel Licensing.

6.3. **CHANGE OF NAME:**

- 6.3.1. Name of the applicant shall be taken from the Metric or equivalent educational Certificate.
- 6.3.2. For changing the name on a licence, under mentioned procedure shall be applicable:
 - 6.3.2.1. An amended certificate of matriculation or an equivalent educational certificate; or
 - 6.3.2.2. New NIC issued by NADRA, Passport and any other evidence required by the Licensing Authority.

6.4. **SECURITY CLEARANCE**

6.4.1. **PAKISTAN NATIONALS**

- 6.4.1.1. An applicant for initial issue of a flight crew licence is required to possess a security clearance from the local and special branch police; and from the intelligence bureau.
- 6.4.1.2. The security clearance proforma, available with the Licensing Office and with aviation training centres, is to be filled in quadruplicate; and submitted with the application for the clearance.
- 6.4.1.3. A Student Pilot Licence (SPL) may be issued on the production of security clearance from at least one of the above mentioned agencies.

6.4.2. **PAKISTAN ARMED FORCES PERSONNEL**

- 6.4.2.1. Security clearance requirements for Pakistan Armed Forces Personnel shall be as follows:

- 6.4.2.1.1. An applicant, who is serving, including LPR, will be required to produce only a 'No Objection Certificate (NOC)' from his respective Services HQ's.
- 6.4.2.1.2. An applicant who has retired (i.e. SOS – struck off strength) shall be required to meet all security clearance requirements.

6.4.3. **FOREIGN NATIONALS**

- 6.4.3.1. A Foreign National intending to do flying training and/or obtain a Pakistan licence shall adopt the following procedures for security clearance:
 - 6.4.3.1.1. Apply through the Embassy of Pakistan in his country to the Ministry of Foreign Affairs (MOFA) along with his full particulars supported by documents and photographs. He shall name the institution where he intends to do flying.
 - 6.4.3.1.2. If the applicant is already residing in Pakistan, he shall apply for the security clearance through his Country's Embassy to Ministry of Foreign Affairs along with full particulars, documents and photographs as per procedures outlined above.
- 6.4.3.2. A foreign National who intends to change his Flying organization is required to obtain prior clearance from Air Transport Directorate, HQ Civil Aviation Authority.

6.5. **LOSS OF LICENCE/CERTIFICATE**

- 6.5.1. Where a holder has misplaced a Licence or a Certificate, he/she is required to meet the following requirements for the issue of a duplicate Licence/Certificate:
 - 6.5.1.1. Submit an application to the Personnel Licensing Office with following documents:
 - 6.5.1.1.1. Copy of FIR.
 - 6.5.1.1.2. Copy of newspaper cutting mentioning the loss of licence.
 - 6.5.1.1.3. Fee Voucher for issue of a duplicate licence.
 - 6.5.1.1.4. An affidavit on plain paper that if the original licence is found, it shall be returned to the Authority.
- 6.6. In case the Licence/Certificate was mutilated and unusable, the applicant shall meet all above requirements except FIR and News Paper cutting.

- 6.7. An annotation will be made, on the duplicate Licence/Certificate issued, as under:

“This Licence/Certificate has been issued to replace the Licence/Certificate granted on (date)_____ and subsequently (lost or mutilated)”

Note 1: *A person found guilty of having intentionally mutilated/alterd/misplaced a Licence/Certificate is guilty of an offence under the Civil Aviation Rules; and is liable for a disciplinary action under the rules.*

Note 2: *The administrative requirements for a Licence/Certificate in this AN, are applicable to both aircrew and non-aircrew Licences and Certificates.*

7. **MEDICAL REQUIREMENTS**

- 7.1. An applicant for the issue/renewal/re-validation of a Licence/Certificate shall hold an appropriate medical fitness certificate issued by the CAA.

8. **PERIOD OF VALIDITY OF LICENCES/CERTIFICATE**

- 8.1.1. The period of validity of Licences/Certificates shall be as under:

8.1.1.1. Student Pilot Licence: 5 years.

8.1.1.2. Recreational Competency Certificate: 2 years.

8.1.1.3. Balloon Pilot Licence: 2 years.

8.1.1.4. Glider Pilot Licence: 2 years.

8.1.1.5. Private Pilot Licence: 2 years.

8.1.1.6. Commercial Pilot Licence: 1 year.

8.1.1.7. Airline Transport Pilot Licence: 1 year.

8.1.1.8. Flight Engineer Licence: 1 year.

- 8.1.2. An extension of upto period of 3 months may be granted to a holder of a Licence/Certificate in case he/she is unable to renew the Licence/Certificate due to unavoidable circumstances.

- 8.1.3. A holder of a Licence shall exercise the privileges of his/her Licence/Certificate only if in possession of an appropriate Medical Fitness Certificate.

9. **GRANT OF VALIDATION/LICENCE ON BASIS OF A FOREIGN LICENCE**

9.1. **GENERAL**

- 9.1.1. A holder of an aircrew Licence/Certificate issued by a Contracting State may as appropriate to his qualification and experience apply for the grant of the following:

- 9.1.1.1. Validation Certificate.
- 9.1.1.2. Restricted Licence.
- 9.1.1.3. Full privilege licence.
- 9.1.2. An applicant for any of the above mentioned Licence/Certificate shall:
 - 9.1.2.1. Be able to speak, read and understand English language (ATC Phraseology written test is required, if applicable).
 - 9.1.2.2. Have been security cleared by the concerned agencies.
 - 9.1.2.3. Have an appropriate Medical Fitness Certificate issued by the contracting state.
 - 9.1.2.4. Restrictions and/or Limitations imposed on the Licence/Certificate by the issuing State shall be applicable mutates mutandis.
 - 9.1.2.5. Holder of a temporary licence issued by a Contracting State is not eligible for the grant of such Licence/Certificate.
- 9.1.3. **VALIDATION CERTIFICATE**
 - 9.1.3.1. The purpose of a Validation Certificate is to permit a foreign aircrew to operate Pakistani registered aircraft for a specific operation and for a limited period where issue of a Pakistan Licence/Certificate is neither appropriate nor necessary.
 - 9.1.3.2. Validation Certificate may be issued for the following:
 - 9.1.3.2.1. Fly an aircraft based abroad with Pakistani registration.
 - 9.1.3.2.2. Ferry a Pakistan registered aircraft to or from a foreign country.
 - 9.1.3.2.3. Conduct demonstration flights.
 - 9.1.3.2.4. Conduct type endorsement training of Pakistani crew.
 - 9.1.3.2.5. Fly for any other purpose the Licensing Authority deems appropriate.
 - 9.1.3.3. Validation Certificate may be issued for upto 90 days subject to validity of the foreign Licence and a valid medical of appropriate class.
- 9.1.4. **RESTRICTED LICENCE**
 - 9.1.4.1. The holder of a valid and current aircrew Licence issued by a Contracting State may be issued with a

Restricted Licence appropriate to the qualification and experience of the holder, but not higher than CPL, with limitations and restrictions, as on original Licence, subject to meeting the prescribed requirements by the Licensing Authority.

9.1.4.2. The validity and renewal requirements of a Restricted Licence shall be governed by the rules and procedures as laid down for a full privilege licence.

9.1.5. **FULL PRIVILEGE LICENCE**

9.1.5.1. A holder of a Licence issued by a Contracting state who intends to have a full privilege licence shall meet the requirements as prescribed in the CAA Regulations.

10. **FLIGHT RADIOTELEPHONE OPERATOR LICENCE (FROL)**

10.1.1. An FROL may be issued subject to meeting the theoretical knowledge requirements as given in the Air Navigation Order (Technical Examinations); and meeting the skill requirements as specified in ICAO Doc 9432- Manual of Radiotelephony.

10.1.2. Where the knowledge and skill of an applicant have been established as `Satisfactory for the issue requirement of a Flight Radiotelephony Operator licence (FROL), an endorsement to this effect shall be made on the licence.

11. **PILOT LICENCES AND INSTRUMENT RATING - REQUIREMENTS**

11.1. The detailed syllabus for written examinations, training requirements and experience for different pilot Licences and Instrument rating are defined in the appropriate Air Navigation Order for the specific Licence or Instrument Rating.

12. **PILOT LICENCES - SKILL REQUIREMENTS**

12.1. **PRIVATE PILOT'S LICENCE (PPL)**

12.1.1. The ability to perform as pilot-in-command of an aircraft, the procedures and maneuvers with a degree of competency appropriate to the privileges granted to the holder of a Private Pilot Licence;

12.1.2. Operate the aircraft within its limitations;

12.1.3. Complete all man oeuvres with smoothness and accuracy;

12.1.4. Exercise good judgments and airmanship;

12.1.5. Apply aeronautical knowledge; and

12.1.6. Maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure of maneuvers is never seriously in doubt.

12.1.7. The error margins are defined as under:

Height

Normal flight	± 150 feet
With simulated engine failure	± 200 feet

Heading/Tracking of radio aid

Normal flight	± 10 ⁰
With simulated engine failure	± 15 ⁰

Speed

Take-off & approach	+15/-5Knots
Normal Flight	± 10 Knots
With simulated engine failure	± 15 Knots

12.2. **COMMERCIAL PILOT'S LICENCE (CPL)**

12.2.1. The ability to perform as pilot-in-command of an aircraft, the procedures and maneuvers with a degree of competency appropriate to the privileges granted to the holder of a Commercial Pilot Licence;

- 12.2.1.1. Operate the aircraft within its limitations;
- 12.2.1.2. Complete all maneuvers with smoothness and accuracy;
- 12.2.1.3. Exercise good judgments and airmanship;
- 12.2.1.4. Apply aeronautical knowledge; and
- 12.2.1.5. Maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure of maneuvers is never seriously in doubt.

12.2.2. The error margins are defined as under:

Height

Normal flight	± 100 feet
With simulated engine failure	± 150 feet
Tracking of radio aid	± 5 ⁰

Heading

Normal flight	± 10 ⁰
With simulated engine failure	± 15 ⁰

Speed

Take-off & approach	+ 5/-0 Knots
Normal Flight	± 10 Knots
With simulated engine failure	± 10 Knots

12.3. **AIRLINE TRANSPORT PILOT'S LICENCE (ATPL)**

12.3.1. The ability to perform, as pilot-in-command of a multi-engine aircraft, required to be operated with a co-pilot, the following procedures and maneuvers:

12.3.1.1. Pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;

12.3.1.2. Normal flight procedures and maneuvers during all phases of flight;

12.3.1.3. Procedures and maneuvers for IFR operations under normal, abnormal and emergency conditions, including simulated engine failure, and covering at least the following;

12.3.1.3.1. Transition to instrument flight on take-off;

12.3.1.3.2. Standard instrument departures and arrivals;

12.3.1.3.3. En-route IFR procedures and navigation;

12.3.1.3.4. Holding procedures;

12.3.1.3.5. Instrument approaches to specified minima;

12.3.1.3.6. Missed approach procedures;

12.3.1.3.7. Landings from instrument approaches;

12.3.1.3.8. Abnormal and emergency procedures and maneuvers related to failures and malfunctions of equipment, such as power-plant, systems and airframe; and

12.3.1.3.9. Procedures for crew incapacitation and crew co-ordination, including allocation of pilot tasks, crew co-operation and use of checklists.

12.3.1.4. The applicant shall also have demonstrated the ability to perform the procedures and maneuvers with a degree of competency appropriate to the privileges granted to the holder of an Airline Transport Pilot's Licence:

12.3.1.4.1. Operate the aeroplane within its limitation;

- 12.3.1.4.2. Complete all maneuvers with smoothness and accuracy;
- 12.3.1.4.3. Exercise good judgment and airmanship;
- 12.3.1.4.4. Apply aeronautical knowledge;
- 12.3.1.4.5. Maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure of maneuvers is never in doubt;
- 12.3.1.4.6. Communicate effectively with the other flight crewmembers.

12.3.1.5. The error margins are defined as under:

Height

Generally	± 100 feet
Starting a go-around at decision height	+50/-0 feet
Minimum descent height/ MAP/altitude	+50/-0 feet

Tracking

On radio aid	± 5°
Precision approach	Half scale deflection, azimuth and glide path

Heading

All engines operating	± 5°
With simulated engine failure	± 10°

Speed

All engines operating	± 5Knots
With simulated engine failure	± 10/-5Knots

13. **INSTRUMENT RATING (IR) – SKILL REQUIREMENTS**

- 13.1. The ability to perform the procedures and maneuvers with a degree of competency appropriate to the privileges granted to the holder of an Instrument Rating as under;
 - 13.1.1. Operate the aircraft within its limitations;
 - 13.1.2. Complete all maneuvers with smoothness and accuracy;
 - 13.1.3. Exercise good judgments and airmanship;
 - 13.1.4. Apply aeronautical knowledge; and

- 13.1.5. Maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure of maneuvers is never seriously in doubt
- 13.1.6. For Multi-Engine Rating, the applicant shall have demonstrated the ability to operate multi-engine aircraft solely by reference to instruments with one engine inoperative, or simulated inoperative.
- 13.1.7. The error margins are defined as under:

Height

Generally	± 100 feet
Starting a go-around at decision height	+50/-0 feet
Minimum descent height/ MAP/altitude	+50/-0 feet

Tracking

On radio aid	± 5 ^o
Precision approach	Half scale deflection, azimuth & glide path

Heading

All engines operating	± 5 ^o
With simulated engine failure	± 10 ^o

Speed

All engines operating	± 5Knots
With simulated engine failure	± 10/-5Knots

14. **PRIVATE PILOT LICENCE RATINGS**

14.1. **NIGHT RATING**

- 14.1.1. Private Pilot Licence may be endorsed with a Night Rating subject to a total experience of 50:00Hrs provided the applicant has:
 - 14.1.1.1. 25:00 Hrs as PIC.
 - 14.1.1.2. 05: Hrs as Night with:
 - 14.1.1.2.1. 03:00 Hrs as P-3 with:
 - 14.1.1.2.1.1. 5 take-Off and Landings.
 - 14.1.1.3. 05:00 Hrs Instrument Training.
 - 14.1.1.4. Flight Check with CFI/DCP with Log Book Endorsement.

14.2. **PASSENGER RATING**

14.2.1. Private Pilot Licence may be endorsed with a Passenger Rating subject to a total experience of 100: 00 Hrs including:

14.2.1.1. 30:00 Hrs SOLO.

14.2.1.2. Flight Check with CFI/DCP with Log Book Endorsement.

15. **AIRCRAFT TYPE RATINGS**

15.1. A flight crew licence, other than Student Pilot Licence (SPL) shall be valid for the type (s) of aircraft on which the holder has demonstrated his technical knowledge and ability to fly.

15.2. Other than SPL, the type(s) of aircraft for which a licence is valid shall be specified by an endorsement on the Licence.

15.3. A pilot or flight engineer licence, other than a SPL/SFEL, shall not be issued unless the applicant has qualified for the Endorsement of at least one aircraft type on the Licence.

15.4. Unless authorized by the Licensing Authority, the aircraft shall be on the Pakistan Register of Civil Aircraft; and in respect of which a valid Certificate of Airworthiness has been issued.

15.5. A pilot desiring an endorsement of a type of aircraft in which provision is not made for fully functioning dual controls, shall make application to the Licensing Authority for approval to undertake the endorsement training.

15.6. **P-1 & P-2 TYPE ENDORSEMENTS ON LICENCE**

15.6.1. Aircraft Types Endorsements on a Licence shall be as P-1 (Group 1) or a P-2 (Group 2).

15.6.2. A P-1 Endorsement authorizes the licence or certificate holder to act as:

15.6.2.1. Pilot in command of an aircraft certificated for single pilot operations and flown by a single pilot.

15.6.2.2. Pilot in command of an aircraft certificated for multi-crew operation and flown by a single pilot.

15.6.2.3. Co-pilot of an aircraft certificated for multi-pilot operation subject to training and currency.

15.6.3. A P-2 endorsement authorizes a Licence/Certificate holder to act as co-pilot of an aircraft manufactured as a multi-pilot operation aircraft.

15.7. **ELIGIBILITY FOR TYPE RATING ENDORSEMENT**

15.7.1. To qualify for an aircraft type endorsement, an applicant shall have completed an approved ground training course with an approved Aviation Training Centre.

- 15.7.2. Passed the aircraft type technical examination.
- 15.7.3. Completed approved flying training and/or simulator training.
- 15.7.4. Passed a flight check with CAA Inspector or Designated Examiner (DE).

16. **AIRCRAFT TYPE TECHNICAL EXAMINATION**

- 16.1. **AIRCRAFT BELOW 5700 KG:** Unless otherwise specified, CFI/CGI/CP shall prepare theory examination paper and conduct the examination for aircraft below 5700 Kg. The question paper along with the answer sheets shall be submitted to the Licensing Office along with application.
- 16.2. The pass credit shall remain valid for 6 months.
- 16.3. **AIRCRAFT ABOVE 5700 KG:** The applicant shall successfully complete an approved ground transition course:
 - 16.3.1. The Ground Transition Course referred above shall be valid for a 6 months period. In case the period lapses, the applicant shall:
 - 16.3.1.1. If between 6 to 12 months have elapsed, complete two days Refresher Course.
 - 16.3.1.2. If more than 12 months have elapsed but not more than 24 months, complete a long refresher course of at least 5 days.
 - 16.3.1.3. If more than 24 months have elapsed, complete the full transition course.

17. **AIRCRAFT TYPE RATING - TRAINING REQUIREMENTS**

- 17.1. **GENERAL:** The skill requirement for type endorsement shall comprise the following:
 - 17.1.1. Gained, under appropriate supervision, experience in the applicable type of aircraft and / or flight simulator in the following:
 - 17.1.1.1. Normal flight procedures and maneuvers during all phases of flight.
 - 17.1.1.2. Abnormal and emergency procedures and maneuvers in the event of failures and malfunctions of equipment, such as power plant, systems and airframe.
 - 17.1.1.3. Where applicable, instrument procedures, including instrument approach, missed approach and landing procedures under normal, abnormal and emergency conditions, including simulated engine failure.
 - 17.1.1.4. Procedures for crew incapacitation and crew coordination including allocation of pilot tasks; crew cooperation, and use of checklist, where applicable.

17.1.1.5. Demonstrated the skill and knowledge required for the safe operation of the applicable type of aircraft, relevant to the duties of a pilot-in-command or a co-pilot as applicable.

17.2. **SINGLE ENGINE RATING - BELOW 5700 KG**

17.2.1. Passed type technical examination.

17.2.2. Evaluation Flight.

17.2.3. Training as recommended by Check Pilot.

17.2.4. Flight Check with CAA Inspector or Designated Examiner.

17.2.5. The above requirements shall apply for additional single engine ratings as well.

17.3. **MULTI-ENGINE RATING - BELOW 5700 KG**

17.3.1. Completed an approved ground course.

17.3.2. Passed type technical examination

17.3.3. Completed a minimum of 6 hours of training including night and instruments.

17.3.4. Completed additional training if recommended by the Instructor.

17.3.5. Flight Check by CAA Inspector or Designated Examiner; and demonstrated the skill and knowledge required for the safe operation of the applicable type of aircraft relevant to the duties of a pilot in command or a co-pilot as applicable.

17.4. **ADDITIONAL MULTI-ENGINE RATINGS - BELOW 5700 KG**

17.4.1. Passed type technical examination.

17.4.2. Complete 2 hours type conversion training.

17.4.3. Completed additional training if recommended by the Instructor.

17.4.4. Flight Check by CAA Inspector or Designated Examiner; and demonstrated the skill and knowledge required for the safe operation of the applicable type of aircraft relevant to the duties of a pilot in command or a co-pilot as applicable.

17.5. **TYPE RATING - AIRCRAFT ABOVE 5700 KG**

17.5.1. Completed an approved ground transition course.

17.5.2. Completed an approved Flight Training Course on an approved Simulator, or aircraft, with an Instructor.

17.5.3. Completed 6 take offs and landings on aircraft.

17.5.4. Flight Check by a CAA Inspector or Designated Examiner; and demonstrated the skill and knowledge required for the safe operation of the applicable type of aircraft, relevant to the duties of a pilot in command or a co-pilot as applicable.

17.6. **TYPE RATINGS - AIRCRAFT ABOVE 5700 KG (AOC HOLDER)**

17.6.1. In addition to the requirements specified above, the applicant, from a Valid AOC holder, which has an established 'Training & Checking Department', shall meet the prescribed requirements as given in the Operations Manual.

18. **SKILL TEST/CHECK (FLIGHT/SIMULATOR) PROCEDURES**

18.1. **GENERAL**

18.1.1. A skill test shall be conducted for following Licensing actions:

18.1.1.1. Issue, Renewal and Re-validation of a Licence or Certificate.

18.1.1.2. Instrument Rating.

18.1.1.3. Instructor Rating.

18.1.1.4. Type Rating.

18.1.1.5. Whenever considered necessary by the CAA to assess the performance of a licence holder.

18.1.1.6. A flight check may be conducted within 90 days prior to the expiry date of Licence or Rating. In such cases, the renewed period shall begin from the date of expiry of the Licence or Rating.

18.2. **ELIGIBILITY**

18.2.1. To be eligible for a Skill test for the issue, renewal, revalidation or a Type Endorsement on a Licence, an applicant shall:

18.2.1.1. Have valid theory examination pass credits, where applicable.

18.2.1.2. Have valid Type Technical pass credits, if applicable.

18.2.1.3. Have met required flying training/experience, as applicable.

18.2.1.4. Hold at least a valid SPL; and

18.2.1.5. Hold a valid medical fitness certificate.

18.3. **EVALUATION FLIGHT**

18.3.1. An evaluation flight may be conducted to assess the training required by an applicant.

- 18.3.2. Where the performance of an applicant is not found satisfactory, he/she shall be advised in writing to undergo additional training.
- 18.3.3. The duration of the flight shall be of at least 45 minutes and the check person shall make an entry in the logbook.
- 18.3.4. No authorisation or a Flight Check report is required for an evaluation flight.

18.4. **AUTHORISATION FOR FLIGHT CHECK**

- 18.4.1. The CFI/CP shall process a Flight Check Authorization request to the CAA on the prescribed application form subject to having satisfied that the applicant meets the eligibility requirements, in the following cases:
 - 18.4.1.1. Initial issue of a Licence/Certificate.
 - 18.4.1.2. Initial issue of Instrument Rating.
 - 18.4.1.3. Initial issue of Instructor Rating.
 - 18.4.1.4. Re-test after a 'failure' Check.
 - 18.4.1.5. First Multi-engine Rating.
 - 18.4.1.6. Whenever specific authorizations are required by the CAA.
- 18.4.2. Unless otherwise specified by the CAA, all Skill/Flight Tests/Checks requiring CAA Authorization shall be conducted or monitored by a CAA Inspector or Designated Examiner.
- 18.4.3. A Skill/Flight Test/check authorization shall remain valid for a period of 90 days.

18.5. **CONDUCT OF SKILL/FLIGHT TEST/CHECK**

18.5.1. **GENERAL**

- 18.5.1.1. The applicant shall arrange an appropriate dual control aircraft for the check.
- 18.5.1.2. The applicant shall file an ATC flight plan, with 'Flight Check' mentioned in the remarks column, with concerned ATC unit.
- 18.5.1.3. The Examiner shall fill report on the appropriate CAA Form after the check; and make the Log Book entry.
- 18.5.1.4. Different parts (General, X-country & Night Checks) of the CPL Flight Check shall be considered as single CPL Check.

18.5.2. **Duration of Checks**

- 18.5.2.1.1. Skill/flight test/check duration for initial issue of a Licence, Rating or Aircraft Type Endorsement, shall not be less than:
- 18.5.2.1.2. PPL – 01:00 Hrs.
- 18.5.2.1.3. CPL – General Flying Check: 01: 00 Hrs; Night: 00:30 Hrs; X-country: 02:00 Hrs.
- 18.5.2.1.4. IR – 01:15 Hrs.
- 18.5.2.1.5. FI – 01:00 Hrs.
- 18.5.2.1.6. Aircraft type/additional endorsement: 01:00 Hrs on Aircraft or 02:00 Hrs on Simulator with 06 Landings/Take Off on aircraft.
- 18.5.2.1.7. Where a general Flight Check and IR check are taken together, the total flight time may be of 2 hours duration.
- 18.5.2.1.8. Checks carried out other than specified above shall not be less than 1: 00 hour duration.

18.5.3. CPL SKILL TEST

- 18.5.3.1.1. A CPL skill test shall be valid for a period of 90 days from the date the last part of the test was passed.
- 18.5.3.1.2. An applicant, who fails part(s) of CPL skill test, will be required to take only that part(s) again.
- 18.5.3.1.3. Failure to pass any of the three part(s) of CPL skill test, within three attempts, shall invalidate the previous passed parts; and any other test exemptions that may have been given. The applicant shall be required to pass all parts of the test again.
- 18.5.3.1.4. A person shall re-appear in failed parts of the skill test after meeting the training recommended by the examiner.

18.6. LOG BOOK CERTIFICATE

- 18.6.1. An applicant shall log each check in his/her logbook indicating the result which shall be certified by the examiner. In case of failure, the flight time shall be logged as P-3 (Training). Otherwise, the flying time shall be logged as P-1 or P-2, as applicable.

18.7. ADDITIONAL FLIGHT CHECK

18.7.1. CAA may ask for an additional flight check if it is not satisfied with the circumstances under which the Check was conducted.

18.8. **RESPONSIBILITIES OF AN EXAMINER**

18.8.1. Before conducting a Check, an examiner shall ensure that:

18.8.1.1. He has been authorised to conduct the check.

18.8.1.2. He is aware of the level of the skill required for that specific Check.

18.8.1.3. The applicant is eligible to undergo a flight check.

18.8.2. The examiner shall complete the applicable flight check form; and in case an applicant has failed, he/she shall be advised in writing of the weak areas and any additional training required. Check report is to be submitted to the Licensing Office.

18.8.3. The examiner shall make an entry of the result in the logbook of the applicant.

18.9. **UPGRADING OF CO-PILOT TO PILOT-IN-COMMAND**

18.9.1. Where the holder has a P-2 endorsement of an aircraft type and intends to upgrade to P-1 endorsement, he/she shall complete all requirements for a P-1 endorsement except the type technical examination if he/she has currency as a co-pilot.

18.10. **DOCUMENTS REQUIRED FOR TYPE RATING ENDORSEMENT**

18.10.1. The documents required to be submitted to the Licensing Office for Type Endorsement are as under:

18.10.1.1. Application Form – CAAF 600.

18.10.1.2. Valid Licence.

18.10.1.3. Course Certificate/Technical Examination Result.

18.10.1.4. Summary of Training Detail.

18.10.1.5. Photocopy of Log Book, applicable page. (A/C Below 5700 KG)

18.10.1.6. Skill Test Authorization by CAA.

18.10.1.7. Skill Test Report on the applicable CAA Form.

18.10.1.8. Fee Voucher/Authorization.

19. **CURRENCY ON SIMILAR AIRCRAFT**

19.1. **GROUPING OF AIRCRAFT - ABOVE 5700 KG.**

19.1.1. The details and training requirements for aircraft weight 5700 KG and above, of similar category, are given in the relevant Air Safety Circular titled 'Aircraft Grouping for Rating & Training requirement'.

19.2. **SIMILAR AIRCRAFT - BELOW 5700 KG**

19.2.1. A person having currency of an aircraft, within a group of similar aircraft, shall be deemed to be having currency on the other aircraft within the same group provided his/her Licence contains the type endorsement of the aircraft.

19.2.2. The decision with regard to placing a new aircraft, added into the Pakistan Civil register, into a group of similar aircraft, shall rest with the CAA.

19.2.3. The grouping is done in 3 parts as Single-Engine Land (Piston); Multi-Engine Land (Piston) and Single & Multi-Engine (Turbine).

19.2.3.1. The consideration factors for keeping aircrafts within the same group are:

19.2.3.1.1. Similarity in cockpit layout/nose shape.

19.2.3.1.2. Cockpit height.

19.2.3.1.3. Aircraft Performance (engine design, avionics, rotation speed, landing speed).

19.2.3.1.4. Aircraft with 160 BHP engine or more, constant speed propeller & Retractable Gear have been listed as complex.

19.2.4. The list does not include Experimental, Military-To-Civil Variants, Tail-Wheel Amphibious, Agriculture, Float-Type and Aerobatic Aircraft.

19.2.5. **GROUP – I : Single-Engine Land (Piston)**

19.2.5.1. **STANDARD**

19.2.5.1.1. **Cessna Series:** 150/152, 172, 172N, 182P.

19.2.5.1.2. **Piper – Series:** PA-28 (Warrior, Archer, Arrow, Cherokee),

19.2.5.1.3. Piper Saratoga (Fixed Gear)

19.2.5.2. **COMPLEX**

19.2.5.2.1. **Cessna Series:** 172 RG, 177 (Cardinal) 182 RG (Sky lane) 210 (Centurion), P210 (Turbo)

19.2.5.2.2. **Piper – Series:** PA-28 (Piper Cherokee Arrow), PA-32 (Cherokee) Saratoga (RG), Saratoga (TB) RG

19.2.5.2.3. **Beech-Series:** Bonanza F-33 (Low Wing), A-36, B-23 (Musketeer)

19.2.5.2.4. **Mooney:** M 20E

19.2.5.2.5. **Socata Trinidad (French):** TB-9, TB-20, TB-21,

19.2.5.2.6. **Commander:** (Commander Aircraft Corporation) 114

19.2.5.2.7. **Cessna 337:**

19.2.6. **GROUP – II: Multi-Engine Land (Piston)**

19.2.6.1. **Cessna Series:** 303 (Crusader), 310, 310P, 320 (Sky knight) – 401, 402, 404 Titan), 414 (Chancellor, 421 (Golden Eagle)

19.2.6.2. **Piper – Series:** PA-31 (Navajo), PA-23 (Aztec), PA-34 (Seneca – I, II, III, IV, V), PA-44 (Seminole), Piper Cheyenne

19.2.6.3. **Beech-Series:** 58 (Baron), Duchess

19.2.6.4. **Norman Britton:** 2A – Islander

19.2.7. **GROUP – III: Single & Multi-Engine Land (Turbine)**

19.2.7.1. **Cessna Series:** 208 (Grand Caravan), 340A, F-406 (Caravan-II), 425 (Corsair Conquest), 441 (Conquest-II)

19.2.7.2. **Commander:** Aero Commander 680, 685, 690

19.2.7.3. **Piper – Series:** Malibu Meridian

19.2.7.4. **Beech-Series:** King Air (A – 9, B – 90, C – 90, A – 100/200)

19.2.7.5. **Norman Britton:** BN – 2T

19.2.7.6. **De Havilland:** DHC – 6 (Twin Otter)/Y-12

20. **CONVERSION FROM MULTI-ENGINE TURBINE-JET TO MULTI-ENGINE PROPELLER TYPE OR VICE VERSA (AIRCRAFT BELOW 5700 KG)**

20.1. Where a multi-engine turbine-jet type is to be added to the existing multi-engine propeller type for the first time or vice versa, the requirements for the flight instructions time may not be less than 4 hours and shall also meet other prescribed requirements including ground training, type technical and flight checks.

20.2. In case the aircraft is engaged in RPT operations, the applicant shall meet the additional requirement as specified by the operator in the approved Operations Manual.

20.3. **THEORETICAL TRAINING**

20.3.1. Not less 5 hours theoretical instruction, including:

20.3.1.1. Principles of multi-engine flight, including flight under asymmetric power.

- 20.3.1.2. Combined control and safety speeds.
- 20.3.1.3. Variable pitch propeller operation, feathering (if a propeller-driven aeroplane type); turbine engine theory and engine handling (if a turbine propeller aeroplane type); theory of high speed flight, including compressibility effects and swept wing low speed handling differences (if a turbine-jet aeroplane type).
- 20.3.1.4. Syllabus items for Aircraft Type Technical Examination.
- 20.3.1.5. Loading *(type related).
- 20.3.1.6. Weight and performance (type related).
- 20.3.1.7. Effect of engine failure on performance and system operation.

20.4. **FLYING TRAINING**

Not less than 4 hours of flight instruction (including 1 hours Instrument flying and not less than 2 hours of asymmetric training) including:

- 20.4.1.1. Normal and emergency operation of the aeroplane and its systems;
- 20.4.1.2. Normal, flapless and performance take-off and approaches, landing and go-around;
- 20.4.1.3. Effects of engine failure in visual conditions and under simulated instrument flight conditions;
- 20.4.1.4. Feathering and un-feathering drills (if propeller driven aeroplane type);
- 20.4.1.5. Determination of minimum control speeds critical engine;
- 20.4.1.6. Asymmetric circuit procedures;
- 20.4.1.7. Emergency drills and procedures, including engine fire in the air and on the ground;
- 20.4.1.8. Instrument flying, to include asymmetric flight.

21. **CONVERSION TRAINING - MULTI-ENGINE HELICOPTER**

21.1. **GENERAL**

21.1.1. An applicant for conversion of Multi-engine helicopter type endorsement on his licence shall have received theoretical instruction and flight training from an Instructor or DCP.

21.2. **THEORETICAL TRAINING**

21.2.1. Not less than 5 hours theoretical instruction, including.

- 21.2.1.1. Syllabus items for helicopter Type Technical Examination.
- 21.2.1.2. Loading (type related).
- 21.2.1.3. Weight and performance (type related).
- 21.2.1.4. Effect of engine failure on performance and system operation.

21.3. **FLYING TRAINING**

- 21.3.1. Not less than 6 hours of flight instruction (Including 1 hours instrument flying), including:
 - 21.3.1.1. Normal and emergency operation of the helicopter and its systems in various load conditions.
 - 21.3.1.2. Normal and maximum performance single engine take-off in various conditions and various type of approach (normal, steep and shallow);
 - 21.3.1.3. Pinnacle and confined area operation.
 - 21.3.1.4. Effect of one engine failure in visual conditions and simulated instrument flight conditions.
 - 21.3.1.5. Auto rotation flight (if applicable).
 - 21.3.1.6. Running landings and take-off (If applicable).

22. **MAINTENANCE OF A LICENCE**

- 22.1. PPL shall be renewed subject to:
 - 22.1.1. A flight check after 24 months;
 - 22.1.2. Or maintaining a higher Licence.
- 22.2. CPL shall be renewed subject to:
 - 22.2.1. A minimum 06 hours of flying in the last 06 months;
 - 22.2.2. Or a flight check;
 - 22.2.3. Or maintaining an ATPL.
- 22.3. ATPL shall be renewed subject to:
 - 22.3.1. A minimum 06 hours of flying in the last 06 months;
 - 22.3.2. And a Valid Instrument Rating;
 - 22.3.3. Or an Instrument Rating check.
- 22.4. Instrument Rating shall be renewed subject to:
 - 22.4.1. An Instrument Rating Check.

- 22.5. If all renewal requirements have been met prior to the expiry date, 30 days of grace period may be given for completion of documentation.
- 22.6. If a Licence or Instrument Rating has not been renewed upto 06 months after the expiry date, the Licence or Instrument Rating shall be renewed subject to:
- 22.6.1. An Oral Test;
- 22.6.2. And meeting all renewal requirements.
- 22.7. If a Licence or Instrument Rating has not been renewed between 06 months to 60 months after the expiry date, the Licence or Instrument Rating shall be renewed subject to:
- 22.7.1. Passing the appropriate Revalidation examination;
- 22.7.2. And meeting all renewal requirements.
- 22.8. If a Licence or Instrument Rating has not been renewed for 60 months after the expiry date, the Licence or Instrument Rating shall be renewed subject to:
- 22.8.1. Passing the theoretical examinations for the concerned Licence or Instrument rating;
- 22.8.2. And meeting all renewal requirements.
- 22.9. An Instrument Rating Check shall invariably include a check on the use of one non-precision approach and one precision approach.
- 22.10. Pilots with an expired Licence but with a verifiable record of continuous flying, and holding a Licence/Certificate of a contracting state, may be given a relaxation of renewal requirements to one degree lower.
- 22.11. Holder of a valid CPL/ATPL may get his FOO/ATC Licence renewed subject to an Oral and meeting all renewal requirements provided the expiry period of FOO/ATC Licence had not exceeded beyond 48 months period.
- 22.12. A Pakistani Licence holder employed by a foreign AOC holder/Operator, acceptable to the CAA; and undergoing regular Proficiency Checks, may get his Pakistani Licence renewed based on the Instrument Rating Check conducted abroad, subject to his providing the required documentary evidence to the Licensing Office. If considered necessary, the training device used shall undergo a normal CAA approval process. The cost of any such visit shall be borne by the applicant/AOC holder.
- 22.12.1. The applicants shall submit the following documents for considerations of the case:
- 22.12.1.1. Letter from the employer of employed status.
- 22.12.1.2. Copy of last page of logbook duly authenticated by local CAA/Operator.

22.12.1.3. Valid Pakistan Licence.

22.12.1.4. Photocopy of Valid foreign Licence/Certificate.

22.12.1.5. Copy of medical certificate of ICAO Standard of appropriate Class.

22.12.1.6. Flight /simulator check report; or an Authorized person of the operator certifying that the Instrument Rating Check of Mr./Ms..... was conducted on (date) on Aircraft No OR Simulator type..... He/she was checked by designated Check Pilot Capt..... OR CAA Inspector Capt.....; and the performance was found 'Satisfactory'.

23. **CURRENCY**

23.1. A Licence shall remain current subject to 3 take offs and 3 landings in the last 90 days.

23.2. A Rating shall remain current subject to 3 take offs and 3 landings in the last 90 days.

23.3. The Night currency shall remain valid subject to 3 night take offs and 3 night landings in the last 90 days.

23.4. Currency may be regained by flying with an Instructor deputed by the approved person.

23.5. Non-Currency on the type aircraft beyond 550 Days shall require meeting of the complete Endorsement Training requirements.

24. **LIMITATIONS AND EXEMPTIONS**

24.1. A single-engine aircraft shall operate at night only on a training mission within aerodrome area.

24.2. Night flying on multi-engine aircraft below 5700 KG may be conducted subject to a Valid Instrument Rating and night currency. Requirements for night flying on aircraft of 5700 KG and above shall be as in Operations Manual or as approved by the CAA.

24.3. Qualified Personnel from Armed Forces, with a total of minimum 500 flying Hours, may be exempted from CPL 2 Examination. No such exemption shall be available for Instrument Rating and ATPL Theoretical Examination.

24.4. The same examiner shall not conduct more than 2 consecutive flight checks of a pilot. (Aircraft weight category above 5700 kg)

25. **RECORDING AND CREDITING OF FLIGHT TIME**

25.1. **GENERAL**

25.1.1. A Licence/Certificate holder shall maintain a logbook, which may be subject to random checks by the CAA.

25.2. **FLYING LOG BOOK**

- 25.2.1. A log book shall contain the following particulars:
- 25.2.1.1. Full name, address and date of birth.
 - 25.2.1.2. The class and number of licence.
 - 25.2.1.3. Other licences and ratings held.
 - 25.2.1.4. Previous experience; and
 - 25.2.1.5. Record of flight, which shall include;
 - 25.2.1.5.1. The date of each flight.
 - 25.2.1.5.2. The type of aircraft.
 - 25.2.1.5.3. The registration marks of the aircraft flown.
 - 25.2.1.5.4. The points of departure and destination of each flight.
 - 25.2.1.5.5. The nature of each flight.
 - 25.2.1.5.6. The flight time in single/multi-engine aircraft by day and night.
- 25.2.2. A person who makes a false or misleading statement on an application or in a logbook is guilty of an offence under Civil Aviation Rules.

25.3. **RECORDING OF FLIGHT TIME**

25.3.1. **GENERAL**

- 25.3.1.1. All aircrew flight time shall be logged in the logbook.
- 25.3.1.2. Flight time during which a pilot is under dual instruction shall be entered in his logbook as 'dual' (P-3) and the pilot giving instruction shall sign the entry. Dual flight time shall be logged if the aircraft was scheduled for flight training.
- 25.3.1.3. The holder of an SPL may log as pilot-in-command the time during which he/she was the sole occupant of an aircraft in flight.
- 25.3.1.4. The holder of a pilot licence other than SPL may log as pilot-in-command the total flight time while pilot-in-command or pilot-in-command under supervision of an aircraft for which his licence was endorsed. The Captain of the aircraft shall certify the flight time flown as pilot-in-command under supervision for the purposes of logging such time as P-1.
- 25.3.1.5. A pilot may log as Co-Pilot the total flight time while Co-Pilot of an aircraft:
 - 25.3.1.5.1. For which his licence is endorsed; and

- 25.3.1.5.2. Which is Certificated for multi-pilot operations by the manufacturer, or
- 25.3.1.5.3. Is certificated by the CAA as Multi-pilot aircraft by virtue of its type of operation.
- 25.3.2. An Instructor may log as pilot-in-command the total flight time during which he/she was acting as an instructor. The log entries shall show that the flight time was as an instructor.
- 25.3.3. A DCP/DE, who is conducting a check while on the controls, shall log the time as P-1. This time shall not be indicated as 'Instructional Hours'.
- 25.3.4. A pilot may log the instrument flight time only;
 - 25.3.4.1. While he/she is manually manipulating the controls, with reference to instrument under either actual or simulated instrument flying conditions. The entire period may be logged as Instrument flying time.
 - 25.3.4.2. While monitoring or providing input to the auto-pilot/auto stabilization equipment when it is engaged.
 - 25.3.4.3. Night VFR shall be logged as Night Hours and not as Instrument Hours.
- 25.3.5. The holder of a Flight Engineer Licence may log the total flight time;
 - 25.3.5.1. While operating as a flight engineer or supervising a flight engineer.
 - 25.3.5.2. Flying as flight engineer under supervision.
- 25.3.6. The holder of a Flight engineer Licence may log as simulator time for the time he/she operates as flight engineer of an approved aircraft simulator.
- 25.3.7. To log the time specified in above paragraphs, a Flight Engineer Licence shall be endorsed with the particular type of aircraft.
- 25.4. **CREDITING OF FLIGHT TIME**
 - 25.4.1. **GENERAL**
 - 25.4.1.1. The flight time gained will be credited towards issue of a licence or rating as given in subsequent paragraphs.
 - 25.4.1.2. If a trainee pilot undergoing an integrated course for PPL/CPL/IR fails to obtain a PPL within the first 60 hours of flying training; the additional hours flown will not be credited towards meeting the total flying experience requirement of CPL/IR.
 - 25.4.2. **CO-PILOT PERFORMING DUTIES OF PIC UNDER-SUPERVISION (PICUS)**

- 25.4.2.1. A pilot claiming the time spent as co-pilot, performing the duties and functions of PICUS, towards meeting the licence experience requirements, shall be credited with that flight time if the flight was conducted in an multi-pilot aircraft and he/she, in addition to other duties assigned by PIC, was responsible for:
 - 25.4.2.1.1. Checking the accuracy of the flight plan, load sheet and fuel calculations for the flight.
 - 25.4.2.1.2. Ensuring that all crew checks were carried out in accordance with the laid down operation procedures.
 - 25.4.2.1.3. Carrying out throughout the flight all the duties and functions of PICUS; and conducted the take-off and the landing.
 - 25.4.2.1.4. Resolving all meteorological, communication and air traffic control problems.
- 25.4.2.2. The PIC certifies in the co-pilot's log book against the entry for that flight that it was carried out by the co-pilot acting as PICUS.

25.4.3. **CREDIT FOR CO-PILOT FLYING HOURS**

- 25.4.3.1. A pilot claiming flying hours as co-pilot towards meeting the experience requirements for a licence will be credited with time if holding an appropriate licence to perform co-pilot duties, and the flight was conducted in a multi-pilot aircraft.

25.5. **LOGGING OF HOURS - MULTI-CREW OPERATION (LONG HAUL)**

- 25.5.1. Captain/Captains shall log all flight time as P-1 (even in crew rest).
- 25.5.2. Co-pilot shall log all the flight time as P-2 when occupying the seat.
- 25.5.3. Captain under supervision shall log all flight time as P-1 when occupying the seat.
- 25.5.4. Co-pilot under supervision shall log all flight time as P-2 when occupying the seat.
- 25.5.5. Instructor shall log all flight time as P-1 when occupying the seat as Instructor.
- 25.5.6. Examiner shall log all flight time as P-1 when occupying the seat as examiner.
- 25.5.7. Flight Engineer/Flight Engineers shall log all flight time as Flight Engineer (even in crew rest).

- 25.5.8. Flight Engineer under supervision shall log all flight time as Flight Engineer when occupying the seat.
- 25.5.9. Flight Engineer Instructor shall log all flight time as Flight Engineer when occupying the seat as Instructor.
- 25.5.10. Flight Engineer Examiner shall log all flight time as Flight Engineer when occupying the seat as examiner.

25.6. **LOG BOOK CERTIFICATION AND ENDORSEMENTS**

- 25.6.1. A flying log book shall be duly certified by:
 - 25.6.1.1. The concerned Instructor for each instructional flights (P-3).
 - 25.6.1.2. The concerned PIC for a co-pilot flying as P-1 U/S (PICUS).
 - 25.6.1.3. The CFI or an FI authorized for evaluation checks, night or passenger rating endorsement check.
 - 25.6.1.4. The concerned CAA Inspector/Designated Examiner for all checks flights both in case of pass or failure.
 - 25.6.1.5. The concerned FI for a student who has been cleared by him to fly 1st solo.
 - 25.6.1.6. The CFI whenever he flies standardization checks with instructors.

26. **CANCELLATION**

- 26.1. With enforcement of this Air Navigation Order, affected portions of ANOs on PPL, CPL, ATPL and IR; and affected portions of Personnel Licensing Manual shall stand canceled.

Date 24th October, 2002

--SD--
(ALIUDDIN)
Air Marshal (Retd)
Director General
Civil Aviation Authority

PRIVATE PILOT SKILL TEST GUIDE

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a)	Flight plan; dead reckoning and map reading
b)	Maintenance of altitude and heading
c)	Orientation, timing and revisions of ETAs
d)	Diversion to alternate aerodrome (planning and implementation)
e)	Use of radio navigation aids
f)	Basic instrument flying check (180° turn in simulated IMC)
g)	Internal checks (fuel management, systems and carburetor icing checks, etc)
h)	Actions after flight
SECTION - 6	
As determined by the DE any relevant items of the class/type rating skill test	

* Some of these items may be combined at the discretion of the Check Pilot.

COMMERCIAL PILOT SKILL TEST GUIDE

SECTION - 1 DEPARTURE	
a)	Pre-flight, documentation mass and balance determination weather brief
b)	Aeroplane inspection and servicing
c)	Taxying and take-off
d)	Performance consideration trim
e)	Aerodrome and traffic pattern operation
f)	Departure procedure, altimeter setting collision avoidance (lookout)
g)	ATC liaison – compliance, R/T procedures
SECTION - 2 AIRWORK	
a)	Control of the aeroplane by external visual reference
b)	Flight at critically low airspeed including recognition of and recovery from incipient and full stalls
c)	Turns, including turns in landing configuration
d)	Flight at critically high airspeeds, including recognition of and recovery from spiral dives
e)	Flight by reference solely to instruments, including <ul style="list-style-type: none"> i) Level flight, cruise configuration, control of heading, altitude and airspeed ii) Climbing and descending turns 10^o – 30^o bank iii) Recoveries from unusual attitudes, limited panel instruments
SECTION - 3 EN ROUTE PROCEDURES	
a)	Control of aeroplane by external visual reference
b)	Orientation, map reading
c)	Altitude, speed, heading control, lookout
d)	Altimeter setting
e)	Monitoring of flight progress, flight log, fuel usage, assessment of track error and re-establishment of correct tracking
f)	Observation of weather conditions, assessment of trends, diversion planning
g)	Tracking, positioning (NDB, VOR) identification of facilities, Implementation of

	diversion plan to alternate aerodrome
SECTION - 4 APPROACH AND LANDING	
a)	Arrival procedures, altimeter setting, checks
b)	ATC liaison: compliance, R/T procedures
c)	Go-around action from low height
d)	Normal landing, crosswind landing (if suitable conditions)
e)	Short field landing
f)	Post flight actions
SECTION - 5 ABNORMAL AND EMERGENCY OPERATIONS	
An applicant is expected to indicate the measures to be taken and carry out touch drills, but is not required to perform any operation action. This section may be combined with section 1 through 4.	
a)	Simulated engine failure after take-off (at a safe altitude)
b)	Alternative landing gear extension equipment malfunction
c)	Forced landing
d)	Approach and landing with idle power
e)	Landing without flaps
SECTION - 6 SIMULATED ASYMMETRIC FLIGHT	
This section may be combined with sections 1 through 5. The test shall have regard to the control of the aeroplane, identification of the failed engine immediate actions (touch drills), follow up actions and checks and flying accuracy, in the following situations:	
a)	Simulated engine failure during take-off and approach (at a safe altitude unless carried out in a FNPT II or a flight simulator)
b)	Asymmetric approach and go-around
c)	Asymmetric approach and full stop landing

INSTRUMENT RATING SKILL TEST GUIDE

SECTION - 1 DEPARTURE	
a)	Use of flight manual (or equivalent) especially a/c performance calculation, mass and balance
b)	Use of air Traffic Services document, weather document
c)	Preparation of ATC flight plan, IFR flight plan/log
d)	Pre-flight inspection
e)	Weather minima
f)	Taxying
g)	Per-take off briefing
h)	Transition to instrument flight
i)	Instrument departure procedures
SECTION - 2 GENERAL HANDLING	
a)	Control of the aeroplane by reference solely to instruments, including:
b)	Climbing and descending turns with sustained 30° bank
c)	Recoveries from unusual attitudes, including sustained 45° bank turns and steep descending turns
d)	Recovery from approach to stall in level flight or gentle climbing/descending turns
e)	Limited panel
SECTION - 3 EN ROUTE PROCEDURES	
a)	Tracking, including interception e.g. NDB, VOR, RNAV
b)	Use of radio aids
c)	Level flight, control of heading, altitude and airspeed, power setting, trim technique
d)	Altimeter setting
e)	Timing and revision of ETAs
f)	Monitoring of flight progress, flight log, fuel usage, systems management
g)	Ice protection procedures, simulated if necessary
h)	ATC liaison and compliance, R/T procedures

SECTION - 4 PRECISION APPROACH	
a)	Setting and Checking of navigational aids, Identification of facilities
b)	Arrival procedures, altimeter checks
c)	Approach and landing briefing, including descent/approach/landing checks
d)	* Holding procedure
e)	Compliance with published approach procedure
f)	Approach timing
g)	Altitude, speed heading control, (stabilized approach)
h)	* Go- around action
i)	* Missed approach procedure/landing
j)	ATC liaison – compliance, R/T procedures
1	* to be performed in Section 4 or Section 5
SECTION - 5 ABNORMAL AND EMERGENCY OPERATIONS	
a)	Setting and checking of navigational aids, identification of facilities
b)	Arrival procedures, altimeter checks
c)	Approach and landing briefing, including descent/approach/landing checks
d)	Holding procedure
e)	Compliance with published approach procedure
f)	Approach timing
g)	Altitude, speed, heading control, (stabilized approach)
h)	Go-around action
i)	Missed approach procedure*/landing
j)	ATC liaison – compliance, R/T procedures
* to be performed in Section 4 or Section 5	
SECTION - 6 SIMULATED ASYMMETRIC FLIGHT	
This section may be combined with sections 1 though 5. The test shall have regard to the control of the aeroplane, identification of the failed engine immediate actions (touch drills), follow up actions and checks and flying accuracy, in the following situations:	
a)	Engine failure after take-off and approach (at a safe altitude unless carried out in a flight simulator of FNPT II)
b)	Asymmetric approach and go-around
c)	Asymmetric approach and full stop landing

AIRLINE TRANSPORT PILOT SKILL TEST GUIDE

- For licensing purpose, the scope of ATPL skill test is confined to ILS CAT 1.
- *The chart below also provides additional information with regard to the Proficiency Check conducted for the crew of Commercial Operators; and which may include assessment down to ILS CAT 11/CAT 111 landings.*

Abbreviations:

- 1 The following symbols mean
 - P = Trained as pilot-in-command or Co-pilot and as Pilot Flying (PF) and pilot Not Flying (PNF) for the issue of a type rating as applicable.
 - X = Simulators shall be used for this exercise, if available; otherwise an aircraft shall be used except where indicated.
- 2 The practical training shall be conducted at least at the training equipment level show as (P), or may be conducted up to any higher equipment level show by the arrow (→).
 - A/C = Aircraft.
 - FS = Flight Simulator
 - FTD = Flight Training Device
 - OTD = Other Training Devices
- 3 The starred items (*) shall be flown in actual or simulated IMC.
- 4 Where the letter 'M' appears in the skill test/proficiency check column this will indicate the mandatory exercise.

	PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in FS A/C	Examiner's initials when test completed
Maneuvers/Procedures Aircraft certificated for 2 pilots shall include MCC training and testing							
SECTION - 1							
1 Flight preparation	P						
1.1 Performance calculation							
1.2 Aeroplane ext. visual inspect.; location of each item and purpose of inspection				P			
1.3 Cockpit inspection		P					
1.4 Use of checklist prior to starting engines, starting procedure, radio and navigation equipment check, selection and setting of navigation and communication frequencies.	P					M	
1.5 Taxiing in compliance with air traffic control or instructions of instructor				P		M	
1.6 Pre-flight checks		P					
SECTION - 2							
2 Take-offs							
2.1 Normal take offs with different flap settings, including expedited take off				P			
2.2 Instrument take off transition to instrument flight is required during rotation or immediately after becoming airborne.			P				
2.3 Cross wind take-off (a/c, if practicable)			P				
2.4 Take-off at maximum take-off mass (actual or simulated maximum take-off mass)			P				
2.5 Take-off with simulated engine failure							
2.5.1 *shortly after reaching V ₂ , or			P				

	PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in FS A/C	Examiner's initials when test completed
Maneuvers/Procedures Aircraft certificated for 2 pilots shall include MCC training and testing							
* in aeroplane which are not certificated as transport category aeroplane (JAR/FAR 25) or as commuter category aeroplanes (SFAR 23), the engine failure shall not be simulated until reaching a minimum height of 500ft above runway end. In aeroplanes having the same performance as a transport category aeroplane regarding take-off mass and density altitude, the instructor may simulate the engine failure shortly after reaching V_2 .							
2.5.2 between V_1 and V_2 , or			P*	X		M* FS Only	
2.5.3 as close as possible after V_1 when V_1 and V_2 , or V_1 and V_R are identical			P*	X		M* FS Only	
2.5.4 rejected take-off at a reasonable speed before reaching V_1 giving due consideration to aeroplane characteristics, runway length surface conditions, wind direction, brake heat energy, and any other factors that might adversely affect safety.			P* →	X		M	
SECTION - 3							
3 Flight Maneuvers and procedures							
3.1 Turns with and without spoilers.			P →				
3.2 Tuck under and Mach buffets reaching the critical Mach number, and other specific flight characteristics of the aeroplane (e.g. Dutch Roll)			P	An aircraft may not be used for this exercise			
3.3 Normal operation of systems and controls engineer's panel	P →						

Maneuvers/Procedures	PRACTICAL TRAINING					Instructors initials when training completed	ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Chkd in		Examiner's initials when test completed	
Aircraft certificated for 2 pilots shall include MCC training and testing							FS A/C	
3.4 Normal and abnormal operation of following systems							A minimum of 3 items shall be selected from 3.4. to 3.5 inclusive	
3.4.0 Engine (if necessary propeller)	P			→			M	
3.4.1 Pressurization and air-conditioning	P			→			M	
3.4.2 Pilot/static system	P			→			M	
3.4.3 Fuel system	P			→			M	
3.4.4 Electrical system →	P						M	
3.4.5 Hydraulic system →	P						M	
3.4.6 Flight control and trim-system	P			→			M	
3.4.7 Anti- and deicing system, glare shield heating →	P						M	
3.4.8 Autopilot/Flight director →	P						M	
3.4.9 Stall warning devices or stall avoidance devices, & stability augmentation devices	P						M	
3.4.10 Ground proximity warning system Weather radar, radio altimeter, transponder		P		→			M	
3.4.11 Radios, navigation equipment, instruments, flight management system	P			→			M	
3.4.12 Landing gear and brake-system	P			→			M	
3.4.13 Slat and flap system	P			→			M	
3.4.14 Auxiliary power unit	P			→			M	
3.5 TCAS →	P						M	

Maneuvers/Procedures	PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in FS A/C	Examiner's initials when test completed
Aircraft certificated for 2 pilots shall include MCC training and testing							
3.6 Abnormal & emergency procedures: 3.6.1 Fire drills e.g. Engine APU, cabin, cargo compartment, flight deck, wing and electrical fires including evacuation.		P →					A minimum of 3 items shall be selected from 3.6. to 3.6.8 inclusive
3.6.2 Smoke control and removal		P →				M	
3.6.3 Engine failures shutdown & restart at a safe height.		P				M	
3.6.4 Fuel dumping (simulated)		P				M	
3.6.5 Wind shear at take off/landing.		P				M	
3.6.6 Simulated cabin pressure failure/Emergency descent.		P				M	
3.6.7 Incapacitation of flight crew flight member.		P →				M	
3.6.8 Other → emergency procedures as outlined in the appropriate aeroplane Flight Manual		P				M	
3.7 Steep turns with 45° bank, 180° to 360° left and right.		P				M	
3.8 Early recognition and counter measures on approaching stall (up to activation of stall warning device) in take-off configuration (flaps in take-off position). In cruising flight configuration and in landing configuration (flaps in landing position, gear extended)							
3.8.1 Recovery from full stall or after activation of stall warning device in climb, cruise and approach configuration.			P	X			

	PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in FS A/C	Examiner's initials when test completed
Maneuvers/Procedures Aircraft certificated for 2 pilots shall include MCC training and testing							
3.9 Instrument flight procedures.							
3.9.1 Adherence to departure and arrival routes and ATC instructions.		P				M	
3.9.2 Holding procedures		P →				M	
3.9.3 ILS approaches down to a decision height (DH) not less than 60m (200ft).		P				M	
3.9.3.1 Manually, without flight director			P			M	
3.9.3.2 Manually, with autopilot.			P*			M*	
3.9.3.3 Automatically with autopilot.			P* →			M*	

Maneuvers/Procedures	PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in FS A/C	Examiner's initials when test completed
<p>Aircraft certificated for 2 pilots shall include MCC training and testing</p> <p>3.9.3.4 Manually, with one engine simulated inoperative; engine failure has to be simulated during final approach from before passing the other marker (OM) until touchdown or though the complete missed approach procedure.</p> <p>In aeroplane which are not certificated as transport category aeroplanes or as commuter category aeroplane , the approach with simulated engine failure and the ensuing go-around shall be initiated in conjunction with the NDB or VOR approach as described in 3.9.4. The go-around shall be initiated when reaching the published obstacle clearance height (OCH/A) however, not later than reaching a minimum descent height/altitude (MDH/A) of 500 ft above runway threshold elevation. In aeroplane regarding take-off mass and density altitude, the instructor may simulate the engine failure in accordance with 3.9.3.4</p>						M*	
<p>3.9.4 NDB or VOC / LOC approach down to the MDH/A</p>			P*			M*	

	PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in FS A/C	Examiner's initials when test completed
<p>Maneuvers/Procedures</p> <p>Aircraft certificated for 2 pilots shall include MCC training and testing</p>							
<p>3.9.5 Circling approach under following conditions:</p> <p>a) Approach to the authorized minimum circling approach altitude at the aerodrome in question in accordance with the local instrument approach facilities in simulated instrument flight conditions</p> <p><u>Followed by</u></p> <p>b) Circling approach to another runway at least 90° off centerline from final approach used in items a), at the authorized minimum circling approach altitude;</p> <p>Remark: if a) and b) are not possible due to ATC reasons a simulated low visibility pattern may be performed.</p>						M*	
SECTION - 4							
4 Missed approach Procedures							
4.1 Go-around with all engines operating* after an ILS approach on reaching decision height.							
4.2 Other missed approach procedures.							
4.3 Go-around with one engine simulated inoperative* after an ILS approach on reaching DH (see also 3.9.3.4).							M*

	PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in FS A/C	Examiner's initials when test completed
Maneuvers/Procedures Aircraft certificated for 2 pilots shall include MCC training and testing							
4.4 Rejected landing at 15 m (50 ft) above runway threshold and go-ground			P*				
SECTION - 5							
5 Landings 5.1 Normal landings* also after an ILS approach with transition to visual flight in reaching DH.			P				

		PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
Maneuvers/Procedures		OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in	Examiner's initials when test completed
Aircraft certificated for 2 pilots shall include MCC training and testing							FS A/C	
6	<p>Type rating for instrument approaches down to a decision height of less than 60 m (200 ft) (Cat II/III)</p> <p>The following Manoeuvres and procedures are the minimum training requirements to permit instrument approaches down to a DH of less than 60 m (220ft)</p> <p>During the following instrument approaches and missed approach procedures all aeroplane equipment required for type certification of instrument approaches down to a DH of less than 60 m (200 ft) shall be used</p>							
6.1	Aborted take-off at minimum authorised RVR					X ────→ An aircraft may not be used for this exercise		M*
6.2	<p>ISL Approaches</p> <p>In simulated instrument flight conditions down to the applicable DH, using flight guidance system. Standard procedures of crew co-ordination (task sharing, call out procedures, mutual surveillance, information exchange and support) shall be observed.</p>					P ────→		M*

Maneuvers/Procedures	PRACTICAL TRAINING					ATPL/TYPE-RATING SKILL TEST/PROF. CHECK	
	OTD	FTD	FS	A/C	Instructors initials when training completed	Chkd in FS A/C	Examiner's initials when test completed
<p>6.3 Go→around After approaches as indicated in 6.2 on reaching DH. The training also shall include a go-around due to (simulated) insufficient RVR, wind shear aeroplane deviation in excess of approach limits for a successful approach, and ground/airborne equipment failure prior to reaching DH and, go-around with simulated airborne equipment failure. Special attention shall be given to go-around procedures with pre-calculated manual or automatic go-around attitude guidance.</p>			P			M*	
<p>6.4 Landing(s) With visual reference established at DH following an instrument approach. Depending on the specific flight guidance system, an automatic landing shall be performed.</p>							

NOTE: CAT II/III operations shall be accomplished in accordance with Operational Rules.

	TRAINING	SKILL TEST EXAMINERS INITIALS WHEN COMPLETED
SECTION - 1		
1 External and cockpit checks		
SECTION - 2		
2 Starting of engine		
2.1 Normal starting procedure		
2.2 Malfunctions		
SECTION - 3		
3 Taxying		
SECTION - 4		
4 Pre-flight check (including engine run-up)		
SECTION - 5		
5 Pre-flight check (including engine run-up)		
5.1 Normal, with different flap settings		
5.2 Crosswind take-off		
5.3 Simulated Engine failure during take-off and/or initial climb (single-engine only)		
SECTION - 6		
6 Climb		
6.1 Best rate of climb/best angle of climb		
6.2 Power setting during climb		
6.3 Climbing turns onto given headings of departure route		
6.4 Transition to level flight		
SECTION - 7		
7 Flight exercises		
7.1 Horizontal flight at various speeds		
7.2 Steep turns, 360° to the left and right at 45° bank angle		
7.3 Approach to stall speed or initiation of stall warning in: a) Full stall – straight and level flight clean configuration engines(s) idle; and b) Approach to stall: descending turns at bank angles 10° to 30° approach configuration, engine(s) at		

	TRAINING	SKILL TEST EXAMINERS INITIALS WHEN COMPLETED
idle; or c) Full stall straight and level flight approach configuration, engine(s) at idle; and d) Approach to stall – climbing turns at bank angles of 10° to 30°, take-off flap, climb power.		
7.4 Handing of autopilot.		
7.5 Simulated engine failure		
7.5.1 Optimum glide speed (single-engine only)		
7.5.2 Pattern to a selected emergency landing area (single-engine only)		
7.5.3 Engine shut down and restart (multi-engine training only)		
SECTION - 8		
8 Go-around		
SECTION - 9		
9 Landings		
9.1 Normal landings		
9.2 Crosswind landings		
9.3 Landings without flaps		
9.4 Landing with simulated engine failure from 200 ft above runway threshold to within 100 m beyond a landing mark (single engine only)		
SECTION - 10		
10 * Instrument flight Applicable only if skill test is combined with a proficiency check for revalidation of an instrument rating		
10.1 * Instrument take-off and departure		
10.2 * Holding procedure		
10.3 * ILS approach down to a DH of 200 ft (60m) or to the minima		
10.3.1 Manually, with or without flight director		
10.3.2 * with automatic pilot (if installed)		
10.4 * non precision approach down to the minimum descent altitude (MD/A) and to the missed approach point (MAP)		
10.5 * failure of instruments early		

	TRAINING	SKILL TEST EXAMINERS INITIALS WHEN COMPLETED
recognition in flight failures		
10.5.1 * of the compass		
10.5.2 * of the attitude indicator		
10.5.3 * of the localiser course or glide path of the ILS indicator		
10.5.4 *flight exercises with simulated failure of the compass and the altitude indicator.		
SECTION - 11		
11 Flight by night (only if applicable)		
11.1 Normal traffic circuit		
11.2 Go-around		
11.3 Landing with landing lights of		
SECTION - 12		
12 Ground instruction or check		
12.1 Failure of electrical equipment/ system		
12.2 Failure of Pressurisation system		
12.3 Failure of gear extension system		
12.4 Smoke formation or outbreak of a fire in flight		
12.5 Use of de-icing/anti-icing system, if applicable		
SECTION - 13 - (if applicable)		
13 Simulated asymmetric flight		
<p>This section may be combined with section 1 through 12.</p> <p>The test shall have regard to the control of the aeroplane identification of the failed engine, immediate action (touch drills), follow-up actions and check and flying accuracy in the following situations.</p>		
13.1 * Engine failure during take-off and approach (at a safe altitude unless carried out in a FNPT II or a flight simulator)		
13.2 * Asymmetric approach and go-around		
13.3 * Asymmetric approach and full stop landing		

- The starred items (*) shall be flown in IMC, or simulated IMC, if the pilot is the holder of an instrument rating .

MULTI-CREW COOPERATION GUIDE

AIM

1. The aim of the multi-crew cooperation course is to become proficient in multi-crew co-operation (MCC) in order to operate safety multi-pilot multi-engine aeroplanes under IFR.

INSTRUCTORS

2. Instructors for MCC training should be thoroughly familiar with human factors and crew resource management (CRM). They should be current with the latest developments in human factors training and CRM techniques.

MULTI - CREW COOPERATION TRAINING

3. The objectives of MCC training are optimum decision making, communication, division of tasks use of checklists, mutual supervision, teamwork, and support throughout all phases all phases of flight under normal, abnormal and emergency conditions. The training emphasizes the development of non-technical skills applicable to working in a multi-crew environment
4. The training should focus on teaching students the basics on the functioning of crewmembers as teams in a multi-crew environment, not simply as a collection of technically competent individuals. The course should provide student with opportunities to practice the skills that are necessary to be effective team leaders and members. This requires training exercises, which include students as crewmember in the PF and PNF roles.
5. Students should be made familiar with inter-personal interfaces and how to make best use of crew co-operation techniques and their personal and leadership styles in a way that fosters crew effectiveness. Students should be made aware that their behavior during normal circumstances can have a powerful impact on crew functioning during high workload and stressful situations
6. Research strongly suggests that behavioral changes in any environment cannot be accomplished in a short period even if the training is very well designed. Trainees need time, awareness, practice and feedback, and continual reinforcement to learn lessons that will endure. In order to be effective, multi-crew co-operation tainting should be accomplished in several phases spread over a period.
7. In principle, the purposes of crew co-ordination procedures are to achieve the following aims.

- a) The pilot-in-command fulfils his managing and decision-making functions irrespective whether he is PF or PNF.
- b) The tasks of PF and PNF are clearly specified and distributed in such a manner that the PF can direct his full attention to the handing and control of the aircraft.
- c) Crew Co-operation is effected in an orderly manner appropriate to the normal, abnormal or emergency situations encountered.
- d) Mutual supervision, information and support is ensured at all times

BASIC MULTI-CREW CO-OPERATION COURSE

- 8. The contents of the basic MCC course should cover theoretical knowledge training, practice and feedback in:
 - a) Interfaces
 - ⇒ Examples of software, hardware, environment and live ware mismatches in practice
 - b) Leadership/ “**follower ship**” and authority
 - ⇒ Managerial and supervisory skills
 - ⇒ Assertiveness
 - ⇒ Barriers
 - ⇒ Cultural influence
 - ⇒ PF and PNF roles
 - ⇒ Professionalism
 - ⇒ Team responsibility
 - c) Personality, attitude and motivation
 - ⇒ Listening
 - ⇒ Conflict resolution
 - ⇒ Mediating
 - ⇒ Critique (pre-flight analyses and planning, ongoing review, post flight)
 - ⇒ Team building
 - d) Effective and clear communication during flight
 - ⇒ Listening
 - ⇒ Feedback
 - ⇒ Standard phraseologies
 - ⇒ Assertiveness
 - ⇒ Participation
 - e) Crew co-ordination procedures

- ⇒ Flight techniques and cockpit procedures
 - ⇒ Standard phraseologies
 - ⇒ Discipline
9. The use of checklists is of special importance for an orderly and safe conduct of the flights. Different philosophies have been developed for the use of checklists. Whichever philosophy is used depends on the complexity of the aircraft concerned, the situation presented, the flight crew composition and their operating experience and the operator's procedures as laid down in the Flight Operations Manual.
10. Mutual supervision, information and support
- a) Any action in handling the aircraft should be performed by mutual supervision. The pilot responsible for the specific action or task (PF or PNF) should be advised when substantial deviations (flight, path, aircraft configuration etc.) are observed
 - b) Call-out procedures are essential, especially during take-off and approach, to indicate progress of the flight, systems status etc.
 - c) Operation of aircraft systems, setting of radios and navigation equipment etc. should not be performed without demand by the PF or without information to the PF and his confirmation.
11. The contents of paragraphs 3 and 4 can best be practiced by performing the exercises in simulated commercial air transport operations.
12. Practice and feedback of MCC with regard to L-L (Live ware - live ware))interface should also make provision for students for self and peer critique in order to improve communication, decision making and leadership skills. This phase is best accomplished through the use of simulators and video equipment. Video feedback is particularly effective because it allows participants to view themselves from a third-person perspective; this promotes acceptance of one's weak areas which encourages attitude and behavioral changes.

REINFORCEMENT

13. No matter how effective the classroom curriculum interpersonal drills, LOFT exercises, and feedback techniques are a single exposure during the multi crew co-operation course for the initial issue of a multi-pilot aeroplane type rating will be insufficient. The attitudes and influences which contribute to ineffective crew co-operation are ubiquitous and may develop over a pilot's lifetime. Thus it will be necessary that the training of non-technical skills will be an integral part of all recurrent training for revalidation of a multi-pilot aeroplane type rating as well as of the training for the issue of further type ratings.

CONDUCT OF MCC EXERCISE

14. The exercises should be accomplished as far as possible in simulated commercial air transport environments. The instruction should cover the following areas:
- a) Pre-flight preparation including documentation and computation of take-off performance data;
 - b) Pre-flight checks including radio and navigation equipments check and setting;
 - c) Before take-off checks including power plant checks, and take-off briefing by PF;
 - d) Normal take-offs with different flap settings tasks of PF and PNF, call-outs;
 - e) Rejected take-offs, crosswind take-offs, take-offs maximum take-off mass, engine failure after V1;
 - f) Normal and abnormal operation of aircraft systems, use of checklists;
 - g) Selected emergency procedures to include engine failure and fire, smoke control and removal wind shear during take-off and landing, emergency descent, incapacitation of a flight crew member;
 - h) Early recognition of and reaction on approaching stall in differing aircraft configurations;
 - i) Instrument flight procedures including holding procedures, precision approaches using raw navigation data, flight director and automatic pilot, one engine simulated inoperative approaches, non-precision and circling approaches, approach briefing by PF, setting of navigation equipments, call-out procedures during approaches, computation of approach and landing data
 - j) Go-arounds, normal and with one engine simulated inoperative, rejected landing, support of the PF by the PNF,
 - k) Landings, normal, crosswind and with one engine simulated inoperative, transition from instrument to visual flight on reaching decision height or minimum descent height/altitude.

CERTIFICATE OF TRAINING

15. Successful completion of MCC – training can be certified as below:

CERTIFICATE OF COMPLETION OF A MCC – TRAINING			
Applicant's last name:		First name:	
Type of Licence		Number:	

Multi-engine instrument Rating rating:		OR	Multi-engine instrument rating skill test	
Issued on:			Passed on:	
Signature of applicant:				

Training			
Multi-crew co-operation training received during period			
from:	to:		Trg. Center/Operator
Location:		Signature of Head of Trg. center or authorized instructor*:	
Date:		Name in capital letters of authorized instructor:	

APPENDIX ``F``

CAA FORMS - AIRCREW LICENSING

CAAF – 600	Application for issue of aircrew Licence, Rating and FOO Licence
CAAF – 601	Application for renewal of aircrew licence and Rating
CAAF – 602	Flight Check Report – General Aviation
CAAD – 603	Flying log book
CAAF – 603 – 1	Pilot Log Book Certificate
CAAF – 603 – 2	RCC Log Book Certificate
CAAF – 604	Application for Flight Check Authorization
CAAF – 604 – 1	Flight Check Authorisation
CAAF – 607	Navigation Cross Country Landing Certificate
CAAF – 608	Aircrew/FOO Technical Exam Application
CAAF – 605	Flight Authorisation Book
CAAD – 610	Graph Sheet Overlay (Plastic)
CAAF – 611	Flight Permit – Endorsement
CAAF – 612	Flying permit – Extension
CAAF – 613	Validation Certificate
CAAD – 614	Student’s Flying Training Record
CAAF – 621	Personal Particular’s for Security Clearance
CAAD – 622	Certificate of Validity of a Pilot Licence
CAAF – 627	Recreational Competency Certificate (RCC)
CAAF – 628	Simulator/Flight Check Report (RPT)
CAAF – 629	Route Check Report
CAAF – 637	FE Route Check Report
CAAF – 638	FE Flight/ Simulator Check Report

CAAF – 639	FE Training Record – CPT/CSS/ SIM
CAAF – 640	FE Training Record – Aircraft
CAAF – 641	Balloon Pilot Licence (BPL)
CAAF – 644	Supervisory Assignment Certificate
CAAF – 643	Check Report – RCC (Weight Cat. – Up to 1200 lbs)
CAAF – 647	Student Pilot’s Licence (SPL)
CAAF – 648	Private Pilot’s Licence – Aeroplane (PPL – A)
CAAF – 649	Private Pilot’s Licence – Helicopter (PPL – H)
CAAF – 650	Commercial Pilot’s Lic. – Aeroplane (CPL – A)
CAAF – 651	Commercial Pilot’s Lic. – Helicopter (CPL – H)
CAAF – 652	Airline Transport Pilot Lic – Aeroplane (ATPL – A)
CAAF – 653	Airline Transport Pilot Lic – Helicopter (ATPL – H)
CAAF – 654	Glider Pilot’s Licence (GPL)
CAAF – 656	Student Flight Engineer’s Licence (SFEL)
CAAF – 657	Flight Engineer’s Licence (FEL)
CAAF – 659	History Sheet of Aircrew /FOO Personnel
CAAF – 660	Validity Certificate of Lic other than Aircrew
CAAF – 661	Validity Certificate of GPL

CAAF-608	Examination Application Form
CAAF-605	Technical Exam Result
CAAF-606	Oral Exam Result
CAAF-634	Post Exam Report