

PART I PERSONNEL LICENSING.

21. General rules concerning licences: (1) Every aircraft shall carry, and be operated by, the personnel specified in this Part and such personnel shall be licensed in the manner as specified in this Part.

(2) A person shall not act as a flight crew member of an aircraft unless a valid licence is held showing compliance with the rules contained in this Part and appropriate to the duties to be performed by that person. The licence shall have been issued by the State of Registry of that aircraft or by any other Contracting State and rendered valid by the State of Registry of that aircraft.

(3) When a licence issued by another Contracting State is rendered valid as an alternative to the issuance of the licence, a suitable authorization shall be issued and to be carried with the former licence. When this authorization is limited to specific privileges it shall specify the privileges of the licence, which are to be accepted as its equivalent. The validity of the authorization shall not extend beyond the period of validity of the former licence. This authorization shall cease to be valid if the licence upon which it was issued is revoked or suspended.

(4) This authorization when used in commercial air transport operation, the Chairman shall confirm the validity of the other Contracting State's licence before issuing the authorization.

(5) A pilot licence issued by a Contracting State should be rendered valid by the Chairman for use in private flights.

(6) The holder of a licence shall not exercise the privileges other than those granted by that licence.

(7) No member of the flight crew of an aircraft registered outside Bangladesh shall fly, or attempt to fly, such aircraft within Bangladesh unless he is the holder of a valid licence granted under the law of the country in which the aircraft is registered.

(8) No person in-charge of an aircraft shall allow such aircraft to be flown unless every member of the flight crew thereof is the holder of a valid licence, which is required to hold under these rules.

(9) A person shall not be deemed to be a member of the flight crew of an aircraft if he is flying for the purpose of becoming qualified for grant or renewal of a licence.

(10) The holder of a pilot's licence of any class may fly as pilot-in-command of an aircraft other than a type to which the provisions of, and the conditions set out in, these rules for the purpose of qualifying for, and included in, the licence to cover an additional type of aircraft.

(11) A person may fly in accordance with the provisions of sub-rule (7) of this rule as pilot-in-command of an aircraft if the licence which he holds entitles him to fly as pilot-in-command of a commercial transport aircraft and every passenger carried in the aircraft is being carried in accordance with the conditions set out in these rules for the purpose of being trained to perform duties as a member of the flight crew of an aircraft.

(12) For the purpose of entitling persons to act as a member of the flight crew of an aircraft registered in Bangladesh, the Chairman may, subject to such conditions and limitations as he may specify in the Air Navigation Orders, grant licence and ratings of any of the classes specified in this Part and the provisions of this Part shall have effect with respect to all such licences and ratings.

(13) No person shall act as an air traffic controller in any air traffic control unit unless he holds a valid licence and rating appropriate to the unit.

(14) For the purpose of issuance of licence and ratings under these rules the Chairman may grant exemption to any requirements specified in these rules provided the Chairman is satisfied that such exemptions are granted only to those having adequate knowledge and experience. Provided that such exemption may be granted in exceptional circumstances and in the public interest.

(15) An applicant shall, before he is issued with any pilot licence or rating, meet such requirements in respect of age, knowledge, experience, flight instruction, skill and medical fitness, as are specified for that licence or rating.

(16) An applicant for any pilot licence or rating shall demonstrate such requirements for knowledge and skill as specified in this Part for that licence or rating, within a period specified by the Chairman.

(17) Until 10 March 2011, Chairman may endorse a type rating for aircraft of the powered-lift category on an aeroplane or helicopter pilot licence. The endorsement of the rating on the licence shall indicate that the aircraft is part of the powered-lift category. The training for the type rating in the powered-lift category shall be completed during a course of approved training, shall take into account the previous experience of the applicant in aeroplane or helicopter as appropriate and incorporate all relevant aspects of operating an aircraft of the powered-lift category.

21A. Category of aircraft, Class, Type of Ratings and Validity of Licence.- (1) The category of aircraft, class and type of ratings as appropriate shall be endorsed on the licence.

(2) A person shall not act either as pilot-in-command or as co-pilot of an aircraft in any of the following categories unless that person is the holder of a pilot licence issued in accordance with the provisions of this Part:

(a) aeroplane ;

- (b) airship of a volume of more than 4600 cubic metres
- (c) helicopter;
- (d) Glider;
- (e) free ballon ;
- (f) powered-lift.

Category ratings shall be for categories of aircraft listed above. Category ratings shall not be endorsed on a licence when the category is included in the title of the licence itself.

(3) When the holder of a pilot licence seeks a licence for an additional category of aircraft, that new category rating shall also be endorsed in the original licence. This additional category rating endorsed on a pilot licence shall indicate the level of licensing privileges at which the category rating is granted.

(4) The holder of a pilot licence seeking additional category ratings shall meet the requirements of this Part appropriate to the privileges for which the category rating is sought.

- (5) Class ratings for aeroplanes certificated for single-pilot operation shall comprise as:
- (a) single-engine, land ;
 - (b) single-engine, sea ;
 - (c) multi-engine, land;
 - (d) multi-engine, sea.

(6) Helicopters certified for single-pilot operations and which have comparable handling, performance and other characteristics shall also comprise a class.

(7) Type ratings shall established for;

- (a) aircraft certificated for operation with a minimum crew of at least two pilots;
- (b) helicopters and powered-lift aircraft certificated for single-pilot operation except where a class rating has been issued under sub-rule (6) of this rule; and
- (c) any aircraft whenever considered necessary by the Chairman.
- (d) Where a common type rating is established, it shall only be for aircraft with similar characteristics in terms of operating procedures, systems and handling.

(8) When an applicant demonstrates skill and knowledge for the initial issue of a pilot licence, the category and the ratings appropriate to the class or type of aircraft used in the demonstration shall be entered on the licence.

(9) No pilot licence holder shall be permitted to act either as pilot-in-command or as co-pilot of an aeroplane or helicopter unless the holder has received appropriate class rating specified in sub-rule (5) & (6) of this rule or type rating when required in accordance with the provision of sub-rule (7) of this rule.

(10) Type rating issued limiting the privileges to act as co-pilot, or limiting the privileges to act as pilot only during the cruise phase of the flight shall be endorsed on the rating.

(11) For the purpose of training, testing, or specific special purpose non-revenue, non-passenger carrying flight, special authorization may be provided in writing to the licence holder by the Chairman in place of issuing the class or type rating in accordance with sub-rule (9) of this rule. Such authorization shall be limited in validity to the time needed to complete the specific flight.

(12) For class rating, the applicant shall have demonstrated a degree of skill appropriate to the licence in an aircraft of the class for which the rating is sought.

(13) For type rating as required by sub-rule 7(a) of this rule, the applicant shall have:

(a) gained, under appropriate supervision, experience in the applicable type of aircraft and/or flight simulator in the following:

(i) normal flight procedures and manoeuvres during all phases of flight;

(ii) abnormal and emergency procedures and manoeuvres in the event of failures and malfunctions of equipments, such as power plant, systems and airframe ;

(iii) where applicable, instrument procedures, including instrument approach, missed approach and landing procedures under normal, abnormal and emergency conditions, including simulated engine failure;

(iv) procedures for crew incapacitation and new coordination including allocation of pilot tasks; crew cooperation and use of checklists;

(b) 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; and

(c) demonstrated, at the airline transport pilot licence level, an extent of knowledge determined by the Chairman of the basis of the requirements specified in Rule 26(1)(b).

(14) For type rating as required by sub-rule 7 (b) and (c) of this rule, the applicant shall have demonstrated the skill and knowledge required for the safe operation of the applicable type of aircraft, relevant to the licensing requirements and piloting functions of the applicant.

(15) Flight simulation training device appropriate to the task for acquiring the experience or performing any manoeuvre required during the demonstration of skill for the issue of a licence or rating shall be approved the Chairman.

(16) No pilot licence holder shall be permitted to act either as pilot-in-command or as co-pilot of an aircraft under instrument flight rules (IFR) unless such holder has received proper authorization from Chairman. Proper authorization shall comprise an instrument rating appropriate to the aircraft category.

(17) No pilot licence holder shall be permitted to carry out flight instruction required for the issue of a pilot licence or rating, unless such holder has received proper authorization from Chairman. Proper authorization shall comprise :

- (a) a flight instructor rating on the holder's licence ; or
- (b) the authority to act as an agent of an approved organization authorized by the Chairman to carry out flight instruction; or
- (c) a specific authorization granted by the Contracting State which issued the licence.

(18) No person shall be permitted to carry out instruction on a flight simulation training device required for the issue of a pilot licence or rating unless such person holds or has held an appropriate licence or has appropriate flight training and flight experience and has received proper authorization from Chairman.

(19) Except as provided in sub-rule (20), (21), (23), (24), and (25) of this Rule a Medical Assessment issued in accordance with sub-rule (4) (f) & (4)(g) of Rule-51 shall be valid from the date of the medical examination for a period not greater than:

- (a) 60 months for the private pilot licence – aeroplane, airship, helicopter and powered-lift;
- (b) 12 months for the commercial pilot licence – aeroplane, airship, helicopter and powered-lift;
- (c) 12 months for the multi-crew pilot licence-aeroplane;
- (d) 12 months for the airline transport pilot licence-aeroplane, helicopter and powered-lift;
- (e) 60 months for the glider pilot licence;
- (f) 60 months for the free balloon pilot licence;
- (g) 12 months for the flight navigator licence;
- (h) 12 months for the flight engineer licence;
- (i) 48 months for the air traffic controller licence.

(20) the period of validity of a Medical Assessment may be reduced by the Chairman when clinically indicated.

(21) When the holders of airline transport pilot licences and commercial pilot licence, for aeroplane and helicopter, who are engaged in single-crew commercial air transport operations carrying passengers, have passed their 40th birthday, the period of validity specified in sub-rule (19) of this rule shall be reduced to six months.

(22) When a holders of private pilot licences for aeroplane and helicopter, glider pilot licence, free balloon pilot licence, and air traffic controller licence have passed their 40th birth day, the period of validity specified in sub-rule (19) of this rule should be further reduced to 24 moths.

(23) When the holders of private pilot licence for aeroplane and helicopter, glider pilot licences, free balloon pilot licences, and air traffic controller licences have passed their 50th birthday, the period of validity specified in sub-rule (19) of this rule should be further reduced to 12 months.

(24) When the holders of airline transport pilot licences, commercial pilot licences multi-crew pilot licences, who are engaged in commercial air transport operations, have passed their 60th birthday, the period of validity specified in 21A (21) shall be reduced to six months.

Note: The periods of validity listed above are based on the age of the applicant at the time of undergoing the medical examination.

(25) Privileges granted by a licence or by related ratings shall not be exercised unless the holder maintains competency and meets the requirements for recent experience as specified by the Chairman and periodical medical assessments in accordance with Rule 51(3) and sub-rule (19) of this rule.

(26) Chairman should establish maintenance of competency and recent experience requirements for pilot licences and ratings based on a systematic approach to accident prevention and should include a risk assessment process and analysis of current operations, including accident and incident data. The maintenance of competency of flight crewmembers, engaged in commercial air transport operations, may be satisfactorily established by demonstration of skill during proficiency flight chicks completed in accordance with Part 6 of these Rules.

(27) Chairman, having issued a licence, shall ensure that the other Contracting States are enables to be satisfied as to the validity of the licenece.

(28) The holder of a licence granted under this Part shall comply with all the conditions attached to the licence and shall conduct his operations accordingly.

(29) Applicants should undergo closely supervised, systematic and continuous courses of

training, conforming to a planned syllabus or curriculum approved by the Chairman and this approved training shall be designed to provide a level of competency at least equal to that provided by the minimum experience requirements for personnel not receiving such approved training

(30) The approval of an organization providing training for flight crew shall be dependent upon the applicant demonstrating compliance with the requirement specified in these rules.

(31) Aeroplane, airship, helicopter and powered-lift pilots and those flight navigators who are required to use the radio telephone aboard an aircraft shall demonstrate the ability to speak and understand the English language used for radiotelephony communications.

(32) Air traffic controllers and aeronautical station operators shall demonstrate the ability to speak and understand the English language used for radiotelephony communications.

(33) Flight engineers, and glider and free balloon pilots should have the ability to speak and understand the English language used for radiotelephony communications.

(34) Aeroplane, airship, helicopter and powered-lift pilots, flight navigators required to use the radiotelephone aboard an aircraft, air traffic controllers and aeronautical station operators shall demonstrate the ability to speak and understand the language used for radiotelephony communications to the level specified in the language proficiency requirements to a level as specified in these rules.

(35) As of 5 March 2008, the English language proficiency of aeroplane, airship, helicopter and powered-lift pilots, air traffic controllers and aeronautical station operators who demonstrate proficiency below the Expert Level (Level 6) shall be formally evaluated at intervals in accordance with an individual's demonstrated proficiency level.

(36) The English language proficiency of aeroplane, airship, helicopter and powered-lift pilots, flight navigators required to use the radio telephone aboard an aircraft, air traffic controllers and aeronautical station operators who demonstrate proficiency below the Expert Level (Level 6) should be formally evaluated at intervals in accordance with an individual's demonstrated proficiency level, as follows:

(a) those demonstrating language proficiency at the Operational Level (Level 4) should be evaluated at least once every three years; and

(b) those demonstrating language proficiency at the Extended Level (Level 5) should be evaluated at least once every six years.

(37) The proficiency level and its criterion as mentioned earlier shall be published with the authority of the Chairman as ANOs.

22. Student Pilot's Licence: (1) Requirements for the issue of the Licence.- An applicant for a Student Pilot's Licence shall satisfy the following requirements:

(a) **Age:** He shall be not less than 16 years of age on the date of application:

(b) **Academic qualification and knowledge:** He shall have passed at least Secondary School Certificate Examination in Science group or its equivalent and shall show required aptitude for a pilot;

(c) **Medical fitness:** The applicant shall hold medical fitness on the basis of compliance with the requirements as laid down in rules 51 and 53.

(2) **Validity of the Licence:** (a) The period of validity of the licence shall commence from the date of issue or renewal of the Licence.

(b) The licence shall be valid for a period not exceeding 12 months from the date of passing the medical examination and it shall lapse on the holder obtaining a pilot licence of a higher order for the same category of aircraft.

(3) **Renewal of the Licence:** The licence may be renewed for a period not exceeding 12 months from the date of a fresh medical examination.

(4) **Aircraft rating:** the licence shall indicate the class and type of aeroplane, helicopter, power-lift and airship the holder is entitled to fly.

(5) **Privileges:** Subject to the validity of endorsements and ratings in the licence, the holders of a licence is entitled to fly within the territory of Bangladesh only as Pilot-in-command of any aeroplane, helicopter, power-lift and airship entered in the aircraft rating of his licence:

Provided that the holder of a Student-Pilot's Licence:

(a) shall fly at all times under the authority and supervision of a flight instructor or an approved examiner;

(b) shall fly under visual flight rules only;

(c) shall not carry passenger, animals and cargo or fly for hire, reward or remuneration of any kind;

(d) shall not undertake cross-country flights unless he has a minimum of 10 hours of solo flight time; and

(e) shall not fly solo unless he meets the medical requirements under rules 51 and 53.

(f) shall not fly solo in an aircraft on an international flight unless by special or general arrangement between the Contracting States concerned.

Note: For this rule “cross-country flight” means a flight to a point beyond a radius of 28 Km (15 miles) from the aerodrome of departure.

23. Private Pilot Licence: (1) General requirements for the issue of the licence appropriate to the aeroplane, helicopter, powered-lift and airship categories.- An applicant for a Private Pilot Licence shall satisfy the following requirements:

(a) **Age :** The applicant shall be not less than 17 years of age on the date of application ;

(b) **Academic qualification and knowledge:** The applicant shall have passed at least Secondary School Certificate Examination or its equivalent and shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a private pilot licence and appropriate to the category of aircraft/intended to be included in the licence, in the following subjects:

Air Law

(i) rules and regulations relevant to the holder of a Private Pilot Licence ; rules of the air; altimeter setting procedures; appropriate air traffic services practices and procedures ;

Aircraft general knowledge for aeroplane, helicopter, powered-lift and airship

(ii) principles of operation and functioning of powerplants, systems and instruments;

(iii) operating limitations of the relevant category of aircraft and powerplants; relevant operational information from the flight manual or other appropriate document ;

(iv) for helicopter and power-lift, transmission (power-trains) where applicable;

(v) for airship, physical properties and practical application of gases;

Flight performance, planning and loading

(vi) effects of loading and mass distribution on flight characteristics; mass and balance calculations;

(vii) use and practical application of take-off, landing and other performance data;

(viii) pre-flight and en-route flight planning appropriate to private operations under VFR; preparation and filing of air traffic services flight plans;

appropriate or traffic services procedures; position reporting procedures; altimeter setting procedures; operations in areas of high-density traffic;

Human performance

(ix) human performance including principles of threat and error management;

Meteorology

(x) application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry; hazardous weather conditions;

Navigation

(xi) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts ;

Operational procedures

(xii) application of threat and error management principles to operational performance;

(xiii) altimeter setting procedures;

(xiv) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;

(xv) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;

(xvi) in the case of the helicopter, and if applicable, powered-lift, settling with power; ground resonance; retreating blade stall; dynamic roll-over and other operation hazards; safety procedures, associated with flight in VMC;

Principles of flight

(xvii) principles of flight;

Radiotelephony

(xviii) communication procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure;

Seamanship

(xix) if, the licence is to include a seaplane or amphibian type of flying machine.

(c) **Skill:** The applicant shall have demonstrated the ability to perform as Pilot-in-command of an aircraft within the appropriate category, the procedures and manoeuvres described in sub-rule 3(b) or 4(b) or 5(b) or 6(b) of this rule, with a degree of competency appropriate to the privileges granted to the holder of a private pilot Licence, and to:

- (i) recognize and manage threats and errors;
- (ii) operate the aircraft within its limitations;
- (iii) complete all maneuvers with smoothness and accuracy;
- (iv) exercise good judgment and airmanship;
- (v) apply aeronautical knowledge; and
- (vi) maintain control of the aircraft at all times in a manner that the successful outcome of a procedure or maneuvers is assured.

(d) **Medical Fitness:** The applicant shall hold medical fitness on the basis of compliance with the requirements as laid down in rules 51 and 53.

(2) **Privileges of the holder of the licence and the conditions to be observed in exercising such privileges:** (a) Subject to compliance with the requirements of the general rules concerning pilot licences and ratings, validity of endorsements and rating in the licence, maintenance of medical fitness and language proficiency, the privileges of the holder of a private pilot licence shall be to act, but not for remuneration, as pilot-in-command or co-pilot of aircraft within the appropriate aircraft category engaged in non-revenue flights.

(b) Before exercising the privileges at night, the licence holder shall have received dual instruction in aircraft within the appropriate category of aircraft in night flying including take-off, landing and navigation.

(3) Specific requirements for the issue of the aeroplane category rating:

(a) **Experience:**

- (i) The applicant shall have completed not less than 40 hours of flight time, or 35 hours if completed during a course of approved training, as a pilot of aeroplanes appropriate to the class rating sought. Experience as a pilot under instruction in a flight simulation training device, approved by the Chairman, is acceptable as part of the total flight time of 40 hours or 35 hours, as the case may be and credit for such experience shall be limited to a maximum of 5 hours;

(ii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements specified in sub-rule 3(a)(i) of this rule can be reduced accordingly.

(iii) The applicant shall have completed in aeroplanes not less than 10 hours of solo flight time appropriate to the class rating sought, under the supervision of an authorized flight instructor, including 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) **Flight Instruction:** The applicant shall have received dual instruction in aeroplanes appropriate to the class rating sought from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the private pilot:

(i) recognize and manage threats and errors;

(ii) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;

(iii) aerodrome and traffic pattern operations, collision avoidance precautions and procedures ;

(iv) control of the aeroplane by external visual reference;

(v) flights at critically slow airspeeds; recognition of and recovery from, incipient and full stalls;

(vi) flight at critically high airspeeds; recognition of, and recovery from, spiral dives;

(vii) normal and cross-wind take-offs and landings;

(viii) maximum performance (short field and obstacle clearance) take-offs; short-field landings;

(ix) flight by reference solely to instruments, including the completion of a level 180° turn;

(x) cross-country flying using visual references, dead reckoning and, where available, radio navigation aids;

(xi) emergency operations, including simulated aeroplane equipment malfunctions;

(xii) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and

(xiii) communication procedures and phraseology.

Note: The instrument experience specified in sub-rule 3(b)(ix) of this rule and the night flying dual instruction in sub-rule 2(b) of this rule do not entitle the holder of a private licence to pilot aeroplanes under IFR.

(4) Specific requirements for the issue of the helicopter category rating:

(a) **Experience:**

(i) The applicant shall have completed not less than 40 hours of flight time or 35 hours if completed during a course of approved training, as a pilot of helicopters. The Chairman shall determine whether experience as a pilot under instruction in a flight simulation training device, is acceptable as part of the total flight time of 40 hours or 35 hours as the case may be and credit for such experience shall be limited to a maximum of 5 hours.

(ii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements sub-rule 4(a)(i) of this rule can be reduced accordingly.

(iii) The applicant shall have completed in helicopters not less than 10 hours of solo flight time under the supervision of an authorized flight instructor, including 5 hours of solo cross-country flight time with at least one cross-country flight totaling not less than 180 km (100 NM) in the course of which landings at two different points shall be made.

(b) **Flight instruction:**

(i) The applicant shall have received not less than 20 hours of dual instruction time in helicopter from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the private pilot:

(A) recognize and manage threats and errors;

(B) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;

(C) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

- (D) control of the helicopter by external visual reference;
- (E) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;
- (F) ground maneuvering an run-ups; hovering; take-offs and landings-normal, out of wind and slopping ground;
- (G) take-offs and landing with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;
- (H) cross-country flying using visual references, dead reckoning and, where available, radio navigation aids; including a flight of at least one hour;
- (I) emergency operations, including simulated helicopter equipment malfunctions; autorotative approach;
- (J) operations to, from and transmitting controlled aerodromes, compliance with air traffic services procedures; and
- (K) communications procedures and phraseology.

(ii) The applicant should have received dual instrument flight instruction form an authorized flight instructor. The instructor should ensure that the applicant has operational experience in flight solely be reference to instruments, including the completion of a level 180° turn, in a suitably instrumented helicopter.

Note: The instrument experience specified in sub-rule 4(b)(ii) and the night flying dual instruction in sub-rule 2(b) of this rule do not entitle the holder of a private pilot licence to pilot helicopter under IFR.

(5) Specific requirements for the issue of the powered-lift category rating:

(a) **Experience:**

(i) The applicant should have completed not less than 40 hours of flight time as pilot of a powered lift. The Chairman should determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 40 hours.

(ii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman should determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of sub-rule 5(a)(i) of this rule can be reduced accordingly.

(iii) The applicant should have completed in a powered-lift not less than 10 hours of solo flight time under the supervision of authorized flight instructor, including 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) Flight instruction:

(i) The applicant should have received not less than 20 hours of dual instruction time in a powered-lift from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the private pilot:

(A) recognize and manage threats and errors ;

(B) pre-flight operations, including mass and balance determination, powered-lift inspection and servicing;

(C) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

(D) control of the powered-lift by external visual reference ;

(E) ground manoeuvring and run-ups; however and rolling take-offs and climb-out; hover and rolling approach and landing-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) flight by reference solely to instruments, including the completion of a level 180° turn;

(H) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;

(I) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour;

(J) emergency operations, including simulated powered-lift equipment malfunctions; power of reconversion to autorotation and autorotative approach, where applicable, transmission and interconnect driveshaft failure, where applicable;

(K) operations to, from and transiting controlled aerodrome, compliance with air traffic services procedures; and

(L) communication procedures and phraseology.

Note: The instrument experience specified in sub-rule 5(b)(i) and the night flying dual instruction specified in sub rule 2(b) of this rule do not entitle the holder of a private pilot licence to pilot powered-lift under IFR.

(6) Specific requirements for the issue of the airship category rating:

(a) **Experience:** The applicant shall have completed not less than 25 hours of flight time as a pilot of airships, including at least :

(i) 3 hours of cross-country flight training in an airship with a cross-country flight totaling not less than 45 km (25 NM);

(ii) 5 take-offs and 5 landings to a full stop at an aerodromes with each landing involving a flight in the traffic pattern at an airport;

(iii) 3 hours of instrument time; and

(iv) 5 hours as pilot assuming the duties of the pilot-in-command under the supervision of the pilot-in-command.

(b) **Flight instruction:** (i) The applicant shall have received dual instruction in airships from an authorized flight instructor. The instructor shall ensure that the applicant has received instruction in at least the following areas:

(A) recognize and manage threats and errors;

(B) pre-flight operations, including mass and balance determination, airships inspection and servicing;

(C) ground reference maneuvers;

(D) aerodromes and traffic pattern operations, collision avoidance precautions and procedures;

(E) techniques and procedures for the take-off, including appropriate limitations, emergency procedures and signals used;

(F) control of the airships by external visual reference;

(G) take-offs and landings and go-around;

- (H) maximum performance (obstacle clearance) take-offs;
- (I) flight by reference solely to instruments, including the completion of a level 180° turn;
- (J) navigation, cross-country flying using visual reference, dead reckoning and radio navigation aids;
- (K) emergency operations (recognition of leaks), including simulated airship equipment malfunctions; and
- (L) communication procedures and phraseology.

24. Commercial pilot Licence: (1) General requirements for the issue of the licence appropriate to the aeroplane, helicopter, powered-lift and airship categories.– An applicant for a Commercial Pilot Licence shall satisfy the following requirements:

(a) **Age:** The applicant shall be not less than 18 years of age on the date of application;

(b) **Academic qualification and knowledge:** The applicant shall have passed at least Higher Secondary Certificate (Science) Examination with Physics and Mathematics or its equivalent and shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a commercial pilot licence and appropriate to the category of aircraft intended to be included in the licence, in the following subjects:

Air law

(i) rules and regulations relevant to the holder of a Commercial Pilot Licence; rules of the air; appropriate air traffic services practices and procedures;

Aircraft general knowledge for aeroplane, helicopter, powered-lift and airship

(ii) principles of operation and functioning of powerplants, systems and instruments;

(iii) operating limitations of the relevant category of aircraft and powerplants; relevant operational information from the flight manual or other appropriate document ;

(iv) use and serviceability checks of equipment and systems of appropriate aircraft;

(v) maintenance procedures for airframes, system and powerplants of appropriate aircraft;

(vi) for helicopter and powered-lift, transmission (power-trains) where applicable;

(vii) for airship, physical properties and practical application of gases;

Flight performance, planning and loading

(viii) effects of loading and mass distribution on aircraft handling, flight characteristics and performance, mass and balance calculations, in the case of airships, helicopters and power-lifts, effects of external loading on handling;

(ix) use and practical application of take-off, landing and other performance data;

(x) pre-flight and en-route flight planning appropriate to commercial operations under VFR, preparation and filing of air traffic services flight plans, appropriate air traffic services procedures, altimeter setting procedures;

Human performance

(xi) human performance including principles of threat and error management;

Meteorology

(xii) interpretation and application of aeronautical meteorological reports, charts and forecasts, use of, and procedures for obtaining, meteorological information, pre-flight and in-flight, altimetry;

(xiii) aeronautical meteorology; climatologic of relevant areas in respect of the elements having an effect upon aviation, the movement of pressure systems, the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;

(xiv) causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;

Navigation

(xv) air navigation, including the use of aeronautical charts, instruments and navigation aids, and understanding of the principles and characteristics of appropriate navigation systems, operation of airborne equipment;

(xvi) In the case of airship;

(A) use, limitation and serviceability of avionics and instruments necessary for the control and navigation;

(B) use, accuracy and reliability of navigation systems used in departure, on-route, approach and landing phases of flight, identification of radio navigation

aids;

(C) principles and characteristics of self-contained and external referenced navigation systems operation of airborne equipment ;

Operational procedures

(xvii) application of threat and error management principles to operational performance;

(xviii) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;

(xix) altimeter setting procedures;

(xx) appropriate precautionary and emergency procedures;

(xxi) operational procedures for carriage of freight, potential hazards associated with dangerous goods;

(xxii) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;

(xxiii) in the case of the helicopter, and if applicable, powered-lift, settling with power; ground resonance; retreating blade stall; dynamic roll-over and other operation hazards; safety procedures, associated with flight in VMC;

Principles of flight

(xxiv) principles of flight;

Radiotelephony

(xxv) communication procedures and phraseology as applied to VFR operations, action to be taken in case of communication failure.

Seamanship

(xxvi) if the licence is to include a seaplane or amphibian type of flying machine;

(c) **Skill:** The applicant shall have demonstrated the ability to perform as pilot-in-command of an aircraft within the appropriate category of aircraft, the procedures and manoeuvres described in sub-rule 3(b) or 4(b) or 5(b) or 6(b) of this rule, with a degree of competency appropriate to the privileges granted to the holder of a commercial pilot licence, and to:

(i) recognize and manage threats and errors;

- (ii) operate the aircraft within its limitations ;
- (iii) complete all manoeuvres with smoothness and accuracy;
- (iv) exercise good judgment and airmanship;
- (v) apply aeronautical knowledge; and
- (vi) maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

(d) **Medical Fitness:** The applicant shall hold medical fitness on the basis of compliance with the requirements as laid down in rules 51 and 52.

(2) **Privileges of the holder of the licence and the conditions to be observed in exercising such privileges:** (a) Subject to compliance with the requirements of the general rules concerning pilot licences and ratings, validity of endorsements and rating in the licence, maintenance of medical fitness and language proficiency, the privileges of the holder of a commercial pilot licence shall be:

- (i) to exercise all the privileges of the holder of a private pilot licence in an aircraft within the appropriate aircraft category;
- (ii) to act as pilot-in-command in an aircraft within the appropriate aircraft category engaged in operations other than commercial air transportation;
- (iii) to act as pilot-in-command in commercial air transportation in an aircraft within the appropriate aircraft category certificated for single-pilot operation;
- (iv) to act as co-pilot in an aircraft within the appropriate aircraft category required to be operated with a co-pilot; and
- (v) for the airship category, to pilot an airship under IFR.

Provided that for all flights under Instrument Flight Rules either as Pilot-in-Command or as co-pilot, the applicant shall be required to have a current instrument rating.

(b) If the privileges of the licence are to be exercised at night, the applicant shall have received dual instruction in aircraft within the appropriate category in night flying, including take-off, landing and navigation.

(3) Specific requirements for the issue of the aeroplane category rating:

(a) **Experience:** (i) The applicant shall have completed not less than 200 hours of flight time, or 150 hours if completed during a course of approved training, as a pilot

of aeroplanes; experience as a pilot under instruction in a flight simulation training device approved by the Chairman, is acceptable as part of the total flight time of 200 hours or 150 hours, as the case may be and credit for the experience shall be limited to a maximum of 10 hours.

(ii) The applicant shall have completed in aeroplanes not less than:

(A) 100 hours as pilot-in-command or, in the case of a course of approved training, 70 hours as Pilot-in-command;

(B) 20 hours of cross-country flight time as pilot-in-command including a cross-country flight totaling not less than 540 km (300 NM) in the course of which full-stop landings at two different aerodromes shall be made;

(C) 10 hours of instrument instruction time of which not more than 5 hours may be instrument ground time; and

(D) if the privileges of the licence are to be exercised at night, 5 hours of night flight time including 5 take-offs and 5 landings as pilot-in command.

(iii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of sub-rule 3(a)(ii)(C) of this rule can be reduced accordingly.

(b) **Flight instruction:** The applicant shall have received dual instruction in aeroplanes appropriate to the class and/or type rating sought from an authorized flight instructor and the instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the commercial pilot:

(i) recognize and manage threats and errors;

(ii) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;

(iii) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

(iv) control of the aeroplane by external visual reference;

(v) flight at critically slow airspeeds; spin avoidance; recognition of, and recovery from, incipient and full stalls;

(vi) flight with asymmetrical power for multi-engine class or type rating;

(vii) flight at critically high airspeeds; recognition of, and recovery from spiral

dives;

(viii) normal and cross-wind take-offs and landings;

(ix) maximum performance (short field and obstacle clearance) take-offs; short-field landings;

(x) basic flight maneuvers and recovery from unusual attitudes by reference solely to basic flight instruments;

(xi) cross-country flying using visual reference, dead reckoning and radio navigation aids; diversion procedures;

(xii) abnormal and emergency procedures and manoeuvres including simulated aeroplane equipment malfunction;

(xiii) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and

(xiv) communication procedures and phraseology.

(4) Specific requirements for the issue of the helicopter category rating:

(a) **Experience:**

(i) The applicant shall have completed not less than 150 hours of flight time, or 100 hours if completed during a course of approved training, as a pilot of helicopters. Chairman shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 150 hours or 100 hours, as the case may be and credit for such experience shall be limited to a maximum of 10 hours.

(ii) The applicant shall have completed in helicopters not less than:

(A) 35 hours as pilot-in-command;

(B) 10 hours of cross-country flight time as pilot-in-command including a cross-country flight in the course of which landings at two different points shall be made;

(C) 10 hours of instrument instruction time of which not more than 5 hours may be instrument ground time; and

(D) if the privileges of the licence are to be exercised at night, 5 hours of night flight time including 5 take-offs and 5 landings pattern as pilot-in-command.

(iii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of sub-rule 4(a)(i) of this rule can be reduced accordingly.

(b) Flight instruction: The applicant shall have received dual instruction in helicopters from an authorize flight instructor. The instructor shall ensure that the applicant has operational experience in the least the following areas to the level of performance required for the commercial pilot.

- (i) recognize and manage threats and errors;
- (ii) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;
- (iii) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- (iv) control of the helicopter by external visual reference;
- (v) recovery at the incipient stage from settling with power, recovery techniques from low-rotor rpm within the normal range of engine rpm;
- (vi) ground manoeuvring and run-ups; hovering; take-offs and landings-normal, out of wind and sloping ground; steep approaches;
- (vii) take-offs and landings with minimum necessary power, maximum performance take-off and landing techniques; restricted site operations; quick stops;
- (viii) hovering out of ground effect; operations with external load, if applicable; flight at high altitude;
- (ix) basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;
- (x) cross-country flying using visual reference, dead read reckoning and radio navigation aids; diversion procedures;
- (xi) abnormal and emergency procedures, including simulated helicopter equipment malfunction, autorotavie approach and landing;
- (xii) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- (xiii) communication procedures and phraseology.

Note: The instrument experience specified in sub-rule 4(a)(ii)(C) and sub-rule 4(b)(ix) and the night flying experience and dual instruction specified in sub-rule 4(a)(ii)(D) and sub-rule 2(b) of this rule do not entitle the holder of a commercial pilot licence to pilot helicopters under IFR.

(5) Specific requirements for the issue of the powered-lift category rating:

(a) **Experience:**

(i) The applicant should have completed not less than 200 hours of flight time in a powered-lift, or 150 hours if completed during a course of approved training, as a pilot of aircraft.

(ii) The applicant should have completed in a powered-lift not less than:

(A) 50 hours as pilot-in-command;

(B) 10 hours in cross-country flying as pilot-in-command including a cross-country flight totaling not less than 540 km (300 NM) in the course of which full stop landing at two different aerodromes shall be made;

(C) 10 hours of instrument instruction of which not more than 5 hours may be instrument ground time; and

(D) if the privileges of the licence are to be exercised at night, 5 hours of night flight time including 5 take-offs and landings as pilot-in-command.

(iii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman should determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of sub-rule 5(a)(i) could be reduced accordingly.

(b) **Flight instrument:** The applicant should have received dual instruction time in a powered-lift from and authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the commercial pilot:

(i) recognize and manage threats and errors;

(ii) pre-flight operations, including mass and balance determination, powered-lift inspection and servicing;

(iii) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

(iv) control of the powered-lift by external visual reference ;

(v) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;

(vi) ground manoeuvring and run-ups; over and rolling take-offs and climb-out; hover and rolling approach and landings-normal, out of wind and slopping ground; steep approaches;

(vii) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stop;

(viii) hovering out of ground effect; operations with external load, if applicable; flight at high altitude;

(ix) basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;

(x) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight at least one hour;

(xi) emergency operations, including simulated powered-lift equipment malfunctions, where applicable; power of reconversion to autorotation; autorotative approach; transmission and interconnect driveshaft failure;

(xii) operations to, from and transmitting controlled aerodromes, compliance with air traffic services procedures; and

(xiii) communication procedures and phraseology.

Note: The instrument experience specified in sub-rule 5(a)(ii)(C) and sub-rule 5(b)(ix) and the night flying experience and dual instruction specified in sub-rule 5(a)(ii)(D) and sub-rule 2(b) of this rule do not entitle the holder of a commercial pilot licence to pilot powered-lift under IFR.

(6) Specific requirements for the issue of the airship category rating:

(a) **Experience:** (i) The applicant shall have completed not less than 200 hours of flight time as a pilot.

(ii) The applicant shall have completed not less than:

(A) 50 hours as a pilot in airships;

(B) 30 hours as pilot-in-command or pilot-in-command under supervision in airships, to include not less than:

- 10 hours of cross-country flight; and

- 10 hours of night flight.

(C) 40 hours of instrument time, of which 20 hours shall be in flight and 10 hours in flight in airship; and

(D) 20 hours of flight training in airships on the areas of operation listed in sub-rule 6(b) of this rule.

(b) **Flight instruction:** The applicant shall have received dual instruction in airships from an authorized flight instructor. The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the commercial pilot:

- (i) recognize and manage threats and errors;
- (ii) pre-flight operations, including mass and balance determination, airships inspection and servicing;
- (iii) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- (iv) techniques and procedures for the take-off, including appropriate limitations, emergency procedures and signals used;
- (v) control of the airships by external visual reference;
- (vi) recognition of leak;
- (vii) normal take-offs and landings;
- (viii) maximum performance (short field and obstacle clearance) take-offs; short-field landings;
- (ix) flight under IFR;
- (x) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids;
- (xi) emergency operations, including simulated airship equipment malfunctions;
- (xii) operations to, from and transmitting controlled aerodromes, compliance with air traffic services procedures; and
- (xiii) communication procedures and phraseology.

25. Multi-crew pilot licence appropriate to the aeroplane category: (1) General requirements for the issue of the licence.- The applicant for a multi-crew licence shall satisfy the following requirements:

(a) **Age:** The applicant shall be not less than 18 years of age on the date of application;

(b) **Academic qualification and knowledge:** The applicant shall have passed at least Higher Secondary Certificate (Science) Examination with Physics and Mathematics or its equivalent and shall have met the requirement specified in sub-rule 1(b) or Rule 26 for the airline transport pilot licence appropriate to the aeroplane category in an approved training course.

(c) **Skill:** (i) The applicant shall have demonstrated the skills required for fulfilling all the competency units specified at Appendix 3 as pilot flying and pilot not flying, to the level required to perform as a co-pilot of turbine-powered aeroplanes certificated for operation with a minimum crew of at least two pilots under VFR and IFR, and to:

(A) recognize and manage threats and errors;

(B) smoothly and accurately manually control the aeroplane within its limitations at all times, such that the successful outcome of a procedure or manoeuvre is assured;

(C) operate the aeroplane in the mode of automation appropriate to the phase of flight and to maintain awareness of the active mode of automation ;

(D) perform, in an accurate manner, normal, abnormal and emergency procedures in all phases of flight; and

(E) communicate effectively with other flight crew members and demonstrate the ability to effectively perform procedures for crew incapacitation, crew coordination, including allocation of pilot tasks, crew cooperation, adherence to standard operating procedures (SOPs) and use of checklist.

(F) progress in acquiring the skills specified in subrule(1)(c) of Rule25 shall be continuously assessed.

(d) **Medical fitness:** The applicant shall hold medical fitness on the basis of compliance with the requirements as laid down in rules 51 and 52.

(2) Privileges of the holder of the licence and the conditions to be observed in exercising such privileges:

(a) Subject to compliance with the requirements of the general rules concerning pilot licences and ratings, validity of endorsements and rating in the licence, maintenance of

medical fitness and language proficiency, the privileges of the holder of a multi-crew pilot licence shall be:

(i) to exercise all the privileges of the holder of a private licence in the appropriate aeroplane category provided the requirements of paragraph sub-rule(3) of Rule 23 have been met;

(ii) to exercise the privileges of the instrument rating in a multi-crew operation; and

(iii) to act as co-pilot in an aeroplane required to be operated with a co-pilot.

(b) Before exercising the privileges of the instrument rating in a single pilot operation in aeroplanes, the licence holder shall have demonstrated an ability to act as pilot-in-command in a single pilot operation exercised solely by reference to instruments and met the skill requirements specified in sub-rule 1(b) of Rule 32 appropriate to the aeroplane category.

(c) Before exercising the privileges of a commercial pilot licence in a single pilot operation in aeroplanes, the licence holder shall have:

(i) completed 70 hours, either as pilot-in-command, or made up by not less than 10 hours a pilot-in-command and the necessary additional flight time a pilot-in-command under supervision in aeroplanes;

(ii) completed 20 hours of cross-country flight time as pilot-in-command, or made up of not less than 10 hours as pilot-in-command and 10 hours as pilot-in-command under supervision, including a cross-country flight totaling not less than 540 km (300 NM) in the course of which full-stop landings as two different aerodromes shall be made; and

(iii) met the requirements for the commercial pilot licence specified in sub-rule 1(b), 1(c), 3(a)(i) & (ii) (B), to (D) and 3(b) of Rule 24 appropriate to the aeroplane category.

Note: When granting single pilot operation privileges to the holder of a MPL, privileges may be documented through an endorsement of the MPL or through the issuance of a CPL in the aeroplane category.

(d) **Experience:** (i) The applicant shall have completed in an approved training course not less than 240 hours as pilot flying and pilot not flying of actual and simulated flight.

(ii) Flight experience in actual flight shall include at least the experience requirements at sub-rule 3(a) of Rule 23, upset recovery training, night flying and flight solely by reference to instruments.

(iii) In addition to meeting sub-rule 2(d)(ii) of this rule, the applicant shall have

gained, in a turbine-powered aeroplane certificated for operation with a minimum crew of at least two pilots, or in a flight simulation training device approved for that purpose by the Chairman in the experience necessary to achieve the advanced level of competency specified by the Chairman.

(e) **Flight instruction:** (i) The applicant shall have completed a course of approved training covering the experience requirements specified in sub-rule 2(d) of Rule 25.

(ii) The applicant shall have received dual flight instruction in all the competency units stated at Appendix 3, to the level required for the issue of the multi-crew pilot licence, to include the competency units required to pilot under instrument flight rules.

26. Airline Transport Pilot Licence: (1) General requirements for the issued of the licence appropriate to the aeroplane, helicopter and powered-lift categories.-The applicant for a Airline Transport Pilot Licence shall satisfy the following requirements:

(a) **Age:** The applicant shall be not less than 21 years of age on the date of application;

(b) **Academic qualification and knowledge:** The applicant shall have passed at least Higher Secondary Certificate (Science) Examination with Physics and Mathematics or its equivalent and shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of an airline transport pilot licence and appropriate to the category of aircraft intended to be included in the licence, in the following subjects.

Air law

(i) rules and regulations relevant to the holder of an Airline Transport Pilot Licence; rules of the air; appropriate air traffic services practices and procedures;

Aircraft general knowledge for aeroplane, helicopter and powered-lift

(ii) general characteristics and limitations of electrical, hydraulic, pressurization and other aircraft systems; flight control systems, including autopilot and stability augmentation;

(iii) principles of operation, handling procedures and operating limitations of aircraft powerplant; effects of atmospheric conditions on engine performance; relevant operational information from the flight manual or other appropriate document;

(iv) operating procedures and limitations of the relevant category of aircraft; effects of atmospheric conditions on aircraft performance in accordance to the relevant operational information from the flight manual;

(v) use and serviceability checks of equipment and systems of appropriate aircraft;

(vi) flight instruments; compasses, turning and acceleration errors; gyroscopic instruments, operational limits and precession effects; practices and procedures in the event of malfunctions of various flight instruments and electronic display units;

(vii) maintenance procedures for airframes, systems and powerplants of appropriate aircraft;

(viii) for helicopter and powered-lift, transmission (power-trains) where applicable;

Flight performance and planning

(ix) effects of loading and mass distribution on aircraft handling, flight characteristics and performance; mass and balance calculations;

(x) use and practical application of take-off, landing and other performance data, including procedures for cruise control;

(xi) pre-flight and en-route operational flight planning; preparation and filing of air traffic services flight plans; appropriate air traffic services procedures; altimeter setting procedures;

(xii) in the case of helicopter or powered-lift, effects of external loading on handling;

Human performance

(xiii) human performance including principles of threats and error management;

Meteorology

(xiv) interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining; meteorological information; pre-flight and in-flight; altimetry;

(xv) aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems; the structure of fronts, and the origin and characteristics of significant weather phenomena which effect take-off, en-route and landing conditions;

(xvi) causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;

(xvii) in the case of aeroplane and powered-lift, practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts; jet streams;

Navigation

(xviii) air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements for long-range flights;

(xix) use, limitation and serviceability of avionics and instruments necessary for the control and navigation of aircraft;

(xx) use, accuracy and reliability of navigation systems and landing phases of flight; identification of radio navigation aids;

(xxi) principles and characteristics of self-contained and external-referenced navigation systems; operation of airborne equipment;

Operational procedures

(xxii) application of threat and error management to operational performance;

(xxiii) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;

(xxiv) precautionary and emergency procedures; safety practices;

(xxv) operational procedures for carriage of freight and dangerous goods;

(xxvi) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;

(xxvii) in the case of the helicopter, and if applicable, powered-lift, settling with power; ground resonance; retreating blade stall; dynamic roll-over and other operation hazards; safety procedures, associated with flight in VMC;

Principles of flight

(xxviii) principles of flight;

Radiotelephony

(xxix) communication procedures and phraseology, action to be taken in case of communication failure.

(2) In addition to the above subjects, the applicant for an airline transport pilot licence applicable to the aeroplane or powered-lift category, shall have met the knowledge requirements for the instrument rating at 1(a) of Rule 32.

(c) **Skill:** (i) The applicant shall have demonstrated the ability to perform as pilot-in-command of an aircraft of the appropriate category 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;

(D) procedures for crew incapacitation and crew co-ordination, including allocation of pilot tasks, crew co-operation and use of checklists; and

(E) in the case of aeroplane and powered-lift, procedures and manoeuvres for instrument flight described in 1(b)(i)(A) to (D) of Rule 32, including simulated engine failure.

(ii) In the case of aeroplane, the applicant shall have demonstrated the ability to perform the procedures and manoeuvres described in 1(C) of Rule 26 as pilot-in-command of a multi-engined aeroplane.

(iii) The applicant shall have demonstrated the ability to perform the procedures and manoeuvres described in 2.6.1.3 with a degree of competency appropriate to the privileges granted to the holder of an airline transport pilot licence, and to:

(A) recognize and manage threats and errors;

(B) smoothly and accurately control the aircraft within its limitations at all times, such that the successful outcome of a procedure or manoeuvre is assured;

(C) operate of aircraft in the mode of automation appropriate to the phase of flight and to maintain awareness of the active mode of automation;

(D) perform, in an accurate manner, normal, abnormal and emergency procedures in all phases of flight;

(E) exercise good judgment and airmanship, to include structured decision making and the maintenance of situational awareness; and

(F) communicate effectively with the other flight crew members and demonstrate the ability to effectively perform procedures for crew

incapacitation, crew coordination, including allocation of pilot tasks, crew cooperation, adherence to standard operation procedures (SOPs) and use of checklists.

(d) **Medical Fitness:** The applicant shall hold medical fitness on the basis of compliance with the requirements as laid down in rules 51 and 52.

(2) Privileges of the holder of the licence and the conditions to be observed in exercising such privileges:

(a) Subject to compliance with the requirements of the general rules concerning pilot licences and ratings, validity of endorsements and ratings in the licence, maintenance of medical fitness and language proficiency, the privileges of the holder of an airline transport pilot licence shall be:

(i) to exercise all the privileges of the holder of a private and commercial pilot licence of an aircraft within the appropriate aircraft category and , in the case of a licence for the aeroplane and powered-lift categories, of the instruments rating; and

(ii) to act as pilot-in-command in commercial air transport in an aircraft of the appropriate category and certificated for operation with more than one pilot.

(b) When the holder of an airline transport pilot licence in the aeroplane category has only previously held a MPL, the privileges of the licence shall be limited to multi-crew operations unless the holder has met the requirements established in 2(a)(i), 2(b) and 2(c) of Rule 256 as appropriate. Any limitation of privileges shall be endorsed on the licence.

(3) Specific requirements for the issue of the aeroplane category rating:

(a) **Experience:** (i) The applicant shall have completed not less than 1500 hours of flight time as a pilot of aeroplanes. Experience as a pilot under instruction in a flight simulation training device approved by the Chairman, is acceptable as part of the total flight time of 1500 hours and credit for the experience 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.

(ii) The applicant shall have completed in aeroplanes not less than:

(A) 500 hours as pilot-in-command under supervision or 250 hours, either as pilot-in-command, or made up by not less than 70 hours as pilot-in-command and necessary additional flight time as pilot-in-command under supervision;

(B) 200 hours of cross-country flight time, of which not less than 100 hours shall be as pilot-in-command or as pilot-in-command under supervision;

(C) 75 hours of instrument time, of which not more than 30 hours may be instrument ground time; and

(D) 100 hours of night flight as pilot-in-command or as co-pilot.

(iii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 3(a) of this rule can be reduced accordingly.

(b) **Flight instruction:** The applicant shall have received the dual flight instruction required at 3(b) of rule 24 for the issue of the commercial pilot licence and t 2(c) of rule 32 for the issue of the instrument rating-or at 2(e) of rule 25 for the issue of the multi-crew pilot licence.

(4) Specific requirements for the issue of the helicopter category rating:

(a) **Experience:** (i) The applicant shall have completed not less than 1000 hours of flight time as a pilot of helicopters. Chairman shall determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 1000 hours. Credit for such experience shall be limited to a maximum of 100 hours, of which not less than 25 hours shall have been acquired in a flight procedure trainer or a basic instrument flight trainer.

(ii) The applicant shall have completed in helicopters not less than:

(A) 250 hours, either as pilot-in-command, or made up by not less than 70 hours as pilot-in-command and necessary additional flight time as pilot-in-command under supervision;

(B) 200 hours cross-country flight time, of which not less than 100 hours shall be as pilot-in-command or as pilot-in-command under supervision;

(C) 30 hours of instrument time, of which not more than 10 ours may be instrument ground time; and

(D) 50 hours of night flight, as pilot-in-command or as co-pilot.

(iii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 4(a)(i) of this rule, can be reduced accordingly.

(b) **Flight instruction:** The applicant shall have received the flight time instruction required for the issue of the commercial pilot licence 4(b) of rule 24.

Note: The instrument time specified in 4(a)(ii)(C) and the night flying time specified in 4(a)(ii)(D) do not entitle the holder of the airline transport pilot licence-helicopter to pilot helicopters under IFR

(5) Specific requirements for the issue of the powered-lift category rating:

(a) Experience: (i) The applicant should have completed not less than 1500 hours of flight time as a pilot in a powered-lift. Chairman should determine whether experience as a pilot under instrument in a flight simulation training device is acceptable a part of the total flight time of 1500 hours.

(ii) The applicant should have completed in a powered-lift not less than:

(A) 250 hours, either as pilot-in-command, or made up by not less than 70 hours as pilot-in-command and the necessary additional flight time as pilot-in-command under supervision;

(B) 100 hours of cross-country flight time, of which not less than 50 hours shall be as pilot-in-command or as pilot-in-command under supervision;

(C) 75 hours of instrument time, of which not more than 30 hours may instrument ground time; and

(D) 25 hours of night flight as pilot-in-command or as co-pilot.

(iii) When the applicant has flight time as a pilot of aircraft in other categories, the Chairman should determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of 2(a)(i) of this rule could be reduced accordingly.

(b) Flight instruction: The applicant should have received the dual flight instruction required at 5(b) of rule 24 for the issue of the commercial pilot licence and at 2(C) of rule 32 for the issue of the instrument rating.

27. Glider pilot licence: (1) Requirements for the issue of the licence.- The applicant for a glider pilot licence shall satisfy the following requirements:

(a) **Age:** The applicant shall be not less than 16 years of age on the date of application.

(b) **Knowledge:** The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a glider pilot licence, in at least the following subjects:

Air law

(i) rules and regulations relevant to the holder of a glider pilot licence; rules of the air; appropriate air traffic services practices and procedures;

Aircraft general knowledge

(ii) principles of operation of glider systems and instruments;

(iii) operating limitations of gliders; relevant operational information from the flight manual or other appropriate document;

Flight performance and planning

(iv) effects of loading and mass distribution on flight characteristics; mass and balance considerations;

(v) use and practical application of launching, landing and other performance data;

(vi) pre-flight and en-route flight planning appropriate to operations under VFR; appropriate air traffic services procedures, altimeter setting procedures; operations in areas of high-density traffic;

Human performance

(vii) Human performance relevant to the glider pilot including principles of threat and error management;

Meteorology

(viii) application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;

Navigation

(ix) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

Operational procedures

(x) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;

(xi) different launch methods and associated procedures;

Principles of flight

(xiii) principles of flight relating to gliders.

(c) The applicant should have demonstrated a level of knowledge appropriate to the privileges to be granted to the holder of a glider pilot licence, in communication procedures and phraseology as appropriate to VFR operations and on action to be taken in case of communication failure.

(d) **Experience:** (i) The applicant shall have completed not less than six hours of flight time as a pilot of gliders including two hours solo flight time during which not less than 20 launches and landings have been performed.

(ii) When the applicant has flight time as a pilot of aeroplanes, the Chairman shall determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of sub-rule 1(d)(i) of this rule can be reduced accordingly.

(iii) The applicant shall have gained, under appropriate supervision, operational experience in gliders in at least the following areas:

- (A) pre-flight operations including glider assembly and inspection;
- (B) techniques and procedures for the launching method used, including appropriate airspeed limitations, emergency procedures and signals used;
- (C) traffic pattern operations, collision avoidance precautions and procedures;
- (D) control of the glider by external visual reference;
- (E) flight throughout the flight envelope ;
- (F) recognition of, and recovery from, incipient and full stalls and spiral dives;
- (G) normal and cross-wind launches, approaches and landings;
- (H) cross-country flying using visual reference and dead-reckoning;
- (I) emergency procedures.

(e) **Skill:** The applicant shall have demonstrated the ability to perform as pilot-in-command of a glider, the procedures and manoeuvres described in sub-rule 1(d)(iii) of this rule with a degree of competency appropriate to the privileges granted to the holder of a glider pilot licence, and to;

(i) recognize and manage threats and errors;

- (ii) operate the glider within its limitations;
- (iii) complete all manoeuvres with smoothness and accuracy;
- (iv) exercise good judgment and airmanship;
- (v) apply aeronautical knowledge; and
- (vi) maintain control of the glider at all times in a manner such that the successful outcome of a procedure or manoeuvre is never seriously in doubt.

(f) **Medical Fitness:** The applicant shall hold medical fitness on the basis of compliance with the requirements as laid down in rules 51 and 53.

(2) **Privileges:** Subject to validity of endorsements and ratings in the licence, the privileges of the holder of a glider pilot licence shall be to act as Pilot-in-command of any glider provided the licence holder has operational experience in the launching method used. If passengers are to be carried, the licence holder should have completed not less than 10 hours of flight time as pilot glider.

27A. Free balloon pilot licence: (1) The provisions of the free balloon pilot licence apply to free balloons using hot air or gas.

(2) **Requirements for the issue of the licence:** The applicant for a free balloon pilot's licence shall satisfy the following requirements:

(a) **Age:** The applicant shall be not less than 16 years of age on the date of application.

(b) **Knowledge:** The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a free balloon pilot licence, in at least the following subjects:

Air law

- (i) rules and regulations relevant to the holder of a free balloon pilot licence; rules of the air; appropriate air traffic services practices and procedures;

Aircraft general knowledge

- (ii) principles of operations of free balloon systems and instruments,
- (iii) operating limitation of free balloons; relevant operational information from the flight manual or other appropriate documents;
- (iv) physical properties and practical application of gasses used in free balloons;

Flight performance and planning

- (v) effects of loading on flight characteristics; mass calculations;
- (vi) use and practical application of launching, landing and other performance data, including the effect of temperature;
- (vii) pre-flight and en-route flight planning appropriate to operations under VFR; appropriate air traffic services procedures; altimeter setting procedures; operations in areas of high-density traffic;

Human performance

- (viii) human performance relevant to the free balloon pilot including principles of threat and error managements;

Meteorology

- (ix) application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;

Navigation

- (x) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

Operational procedures

- (xi) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
- (xii) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;

Principles of flight

- (xiii) principles of flight relating to free balloons;

(c) The applicant should have demonstrate a level of knowledge appropriate to the privileges to be granted to the holder of a free balloon pilot licence, in radiotelephony procedures and phraseology as appropriate to VFR operations and on action to be taken in case of communication failure.

(d) **Experience:** (i) The applicant shall have completed not less than 16 hours time as a pilot of free balloons including at least eight launches and ascents of which one must be solo.

(ii) the applicant shall have gained, under appropriate supervision, operational experience in free balloons in at least the following areas :

- (A) pre-flight operation, including balloon assembly, rigging, inflation, mooring and inspection;
- (B) techniques and procedures for the launching and ascent, including appropriate limitations, emergency procedures and signals used;
- (C) collision avoidance precautions;
- (D) control of a free balloon by external visual reference;
- (E) recognition of, and recovery from, rapid descents;
- (F) cross-country flying using visual reference and dead-reckoning;
- (G) approaches and landings, including ground handling;
- (H) emergency procedures.

(iii) If the privileges of the licence are to be exercised at night, the applicant shall have gained, under appropriate supervision, operational experience in free balloons in night flying.

(iv) If passengers are to be carried for remuneration or hire, the licence holder shall have completed not less than 35 hours of flight time including 20 hours as a pilot of free balloon.

(e) **Skill:** The applicant shall have demonstrated the ability to perform as pilot-in-command of a free balloon, the procedures and maneuvers described in sub-rule 2(d)(ii) of this rule with a degree of competence appropriate to the privileges granted to the holder of a free balloon pilot's licence, and to:

- (i) recognize and manage threats and errors;
- (ii) operate the free balloon within its limitations;
- (iii) complete all manoeuvres with smoothness and accuracy;
- (iv) exercise good judgment and airmanship;
- (v) apply aeronautical knowledge; and
- (vi) maintain control of the free balloon at all times in a manner such that the successful outcome of a procedure or manoeuvre is never seriously in doubt.

(f) **Medical fitness:** The applicant shall have his fitness on the basis compliance with the requirements as laid down in rules 51 and 53.

(2) Privileges of the holder of the licence and the conditions to be observed in exercising such privileges: (1) Subject to compliance with the requirements of the general rules concerning pilot licences and ratings, validity of endorsements and rating in the licence, the privileges of the holder of a free balloon pilot licence shall be to act as pilot-in-command of any free balloon provided that the licence holder has operational experience in hot air or gas balloons as appropriate. In addition, if passengers are to be carried for remuneration or hire, the licence holder shall have completed not less than 35 hours of flight time including 20 hours as a pilot of free balloon.

(ii) Before exercising the privileges at night, the licence holder shall have complied with the requirements specified in sub-rule 2(d)(iii) of this rule.

28. Deleted.

29. Deleted.

30. Deleted.

31. Deleted.

32. Instrument Rating: (1) Requirements for the issue of the rating for aeroplane, helicopter, powered-lift and airship categories.-The applicant for an instrument rating shall satisfy the following requirements:

(a) **Knowledge:** The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of an instrument rating, in at least the following subjects:

Air law

(i) rules and regulation relevant to flight under IFR; related air traffic services practices and procedures;

Aircraft general knowledge for the aircraft category being sought

(ii) use, limitation and serviceability of avionics, electronic devices and instruments necessary for the control and navigation of aircraft under IFR and in instrument meteorological conditions; use and limitations of autopilot;

(iii) compasses, turning and acceleration errors; gyroscopic instruments, operational limits and precession effects; practices and procedures in the event of malfunctions of various flight instruments;

Flight performance and planning for the aircraft category being sought

- (iv) pre-flight preparations and checks appropriate to flight under IFR;
- (v) operational flight planning; preparation and filling of air traffic services flight plans under IFR; altimeter setting procedures;

Human performance for the aircraft category being sought

- (vi) human performance relevant to instrument flight in aircraft including principles of threat and error management;

Meteorology for the aircraft category being sought

- (vii) application of aeronautical meteorology; interpretation and use of reports; charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information; altimetry;
- (viii) causes, recognition and effects of engine and airframe icing; frontal zone penetration procedures; hazardous weather avoidance;
- (ix) in the case of helicopter and powered-lift, effects of rotor icing;

Navigation for the aircraft category being sought

- (x) practical air navigation using radio navigation aids;
- (xi) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;

Operational procedures for the aircraft category being sought

- (xii) application of threat and error management to operational procedures;
- (xiii) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedure charts for departure, en-route, descent and approach;
- (xiv) precautionary and emergency procedures; safety practices associated with flight under IFR; obstacle clearance criteria;

Radiotelephony

- (xv) communication procedures and phraseology as applied to aircraft operations under IFR; action to be taken in case of communication failure.

(b) **Skill:** (i) The applicant shall have demonstrated in an aircraft of the category for which the instrument rating is being sought the ability to perform the procedures and manoeuvres described in sub-rule 2(c) of this rule with a degree of competency appropriate to the privileges granted to the holder of an instrument rating, and to:

(A) recognize and manage threats and errors;

(B) operate the aircraft for the category being sought within its limitations;

(C) complete all manoeuvres with smoothness and accuracy;

(D) exercise good judgment and airmanship;

(E) apply aeronautical knowledge;

(F) maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

(ii) The applicant shall have demonstrated the ability to operate multi-engined aircraft of the appropriate category solely by reference to instruments with one engine inoperative, or simulated inoperative, if the privileges of the instrument rating are on such aircraft;

(c) **Medical fitness:** (1) Applicant who hold a private pilot licence shall have established their hearing acuity on the basis of compliance with the hearing requirements for the issue of a Class 1 Medical Assessment.

(2) Privileges of the holder of the rating and the conditions to be observed in exercising such privileges: (a) (i) Subject to compliance with the requirements of the general rules concerning pilot licences and ratings, validity of endorsements and rating in the licence, the privileges of the holder of an instrument rating with a specific aircraft category of aircraft under IFR.

(ii) Before exercising the privileges on multi-engined aircraft, the holder of the rating shall have complied with the requirements of sub-rule 1(b)(ii) of this rule.

Note: Pilot may exercise joint category privileges of the instrument rating on more than one category of aircraft if they have completed the requirements in each category.

(b) **Experience:** (i) The applicant shall hold a pilot licence for the aircraft category being sought.

(ii) The applicant shall have completed not less than:

(A) 50 hours of cross-country flight time as pilot-in-command of aircraft in categories acceptable to the Chairman, of which not less than 10 hours shall

be in the aircraft category being sought; and

(B) 40 hours of instrument time in aircraft of which not more than 20 hours, or 30 hours where a flight simulator is used, may be instrument ground time; and the ground time shall be under the supervision of an authorized instructor.

(c) **Flight Instruction:** The applicant shall have gained not less than 10 hours of the instrument flight time required in sub-rule 2(b)(ii) while receiving dual instrument flight instruction in the aircraft category being sought from an authorized flight instructor; and the instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the holder of an instrument rating:

(i) 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;

(ii) pre-flight inspection, use of checklists, taxiing and pre-take-off-checks;

(iii) procedures and manoeuvres for IFR operation under normal, abnormal and emergency conditions covering at least :

(A) transition to instrument flight on take-off;

(B) standard instrument departures and arrivals;

(C) en-route IFR procedures;

(D) holding procedures;

(E) instrument approaches to specified minima;

(F) missed approach procedures; and

(G) landings from instrument approaches;

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

(v) If the privileges of the instrument rating are to be exercised on multi-engined aeroplanes, the applicant shall have received dual instrument flight instruction in such an aeroplane from an authorized flight instructor, and the instructor shall ensure that the applicant has operational experience in the operation of the aeroplane solely by reference to instruments with one engine inoperative or simulated inoperative.

32A. Deleted.

33. Deleted.

34. Flight instructor rating appropriate to aeroplanes, airships, helicopters and powered-lift: (1) Requirements for the issue of the rating.- The applicant for the flight instructor's rating shall satisfy the following requirements:

(a) **Knowledge:** The applicant shall have met the knowledge requirements for the issue of a commercial pilot licence as appropriate to the category of aircraft included in the licence. In addition, the applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a flight instructor rating, in at least the following areas:

- (i) techniques of applied instruction;
- (ii) assessment of student performance in those subjects in which ground instruction is given ;
- (iii) the learning process ;
- (iv) elements of effective teaching;
- (v) student evaluation and testing, training philosophies;
- (vi) training programme development;
- (vii) lesson planning;
- (viii) classroom instructional techniques;
- (ix) use of training aids, including flight simulation training devices as appropriate;
- (x) analysis and correction of student errors;
- (xi) human performance relevant to flight instruction including principles of threat and error management;
- (xii) hazards involved in simulating system failures and malfunctions in the aircraft.

(b) **Skill:** The applicant shall have demonstrated, in the category and class of aircraft for which flight instructor privileges are sought, the ability to instruct in those areas in which flight instruction is to be given, including pre-flight, post-flight and ground instruction as appropriate.

(c) **Experience:** The applicant shall have met the experience requirements for the issue of a commercial pilot licence as specified in sub-rule 3(a), sub-rule 4(a), sub-rule 5(a) and sub-rule 6(a) of Rule 24 for each aircraft category, as appropriate.

(d) **Flight Instruction:** The applicant shall, under the supervision of a flight instructor accepted by the Chairman for that purpose:

(i) have received instruction techniques in those flight manoeuvres and procedures in which it is intended to provide flight instruction.

(ii) have practiced instructional techniques in those flight manoeuvres and procedures in which it is intended to provide flight instruction.

(2) Privileges of the holder of the rating and the conditions to be observed in exercising such privileges: (a) Subject to compliance with the requirements of the general rules concerning pilot licences and ratings, validity of endorsements and rating in the licence, the privileges of the holder of a flight instructor rating shall be:

(i) to supervise solo flights by student pilots ; and

(ii) to carry out flight instruction for the issue of a private pilot licence, a commercial pilot licence, an instrument rating, and a flight instructor rating.

Provided that the flight instructor:

(A) holds at least the licence and rating for which instruction is being given, in the appropriate aircraft category;

(B) holds the licence and rating necessary to act as the pilot-in-command of the aircraft on which the instruction is given ; and

(C) has the flight instructor privileges granted entered on the licence.

(b) The applicant, in order to carry out instruction for the multi-crew pilot licence, shall have also met all the instructor qualifications requirements.

35. Flight navigator licence: (1) Requirement for the issue of the licence: The applicant for the flight navigator licence shall meet the following requirements:

(a) **Age:** The applicant shall be not of less than 18 years of age on the date of application;

(b) **Academic Qualification and Knowledge:** The applicant shall have passed the Higher Secondary Certificate (Science) Examination or its equivalent and shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a flight navigator licence, in at least the following subjects:

Air law

- (i) rules and regulations relevant to the holder of a Flight Navigator Licence; appropriate air traffic services practices and procedures;

Flight performance and planning

- (ii) effects of loading and mass distribution on aircraft performance ;
- (iii) use of take-off, landing and other performance data including procedures for cruise control;
- (iv) pre-flight and en-route operational flight planning; preparation and filing of air traffic services flight plans, appropriate air traffic services procedures; altimeter setting procedures;

Human performance

- (v) human performance relevant to the flight navigator including principles of threats and error management;

Meteorology

- (vi) interpretation and practical application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information, pre-flight and in-flight; altimetry;
- (vii) aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems; the structure of fronts and the origin and characteristics of significant weather phenomena which effect take-off, en-route and landing conditions;

Navigation

- (viii) dead-reckoning, pressure-pattern and celestial navigation procedures; the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirement for long-range flights;
- (ix) use, limitation and serviceability of avionics and instruments necessary for the navigation of the aircraft;
- (x) use, accuracy and reliability of navigation systems used in departure, en-route and approach phases of flight; identification of radio navigation aids;
- (xi) principles, characteristics and use of self-contained and external-referenced navigation systems; operation of airborne equipment;

(xii) the celestial sphere including the movement of heavenly bodies and their selection and identification for the purpose of observation and reduction of sights; calibration of sextants; the completion of navigation documentation;

(xiii) definitions, units and formulae used in air navigation;

Operational procedures

(xiv) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes, abbreviations, and instrument procedure charts for departure, en-route, descent and approach;

Principles of flight

(xv) principles of flight;

Radiotelephony

(xvi) communication procedures and phraseology;

(c) **Experience:** (i) The applicant shall have completed in the performance of the duties of a flight navigator not less than 200 hours of flight time acceptable to the Chairman, in aircraft engaged in cross-country flights, including not less than 30 hours by night;

(ii) when the applicant has flight time as a pilot, the Chairman may reduce the flight time requirements of sub-rule (i) of this Rule;

(iii) the applicant shall produce evidence of having satisfactorily determined the aircraft's position in flight, and used that information to navigate the aircraft, as follows:

(A) by night-not less than 25 times by celestial observations; and

(B) by day – not less than 25 times by celestial observations in conjunction with self-contained or external referenced navigation systems.

(d) **Skill:** The applicant shall have demonstrated the ability to perform as flight navigator of an aircraft with a degree of competency appropriate to the privileges granted to the holder of a flight navigator licence, and to:

(i) recognize and manage threats and errors;

(ii) exercise good judgment and airmanship;

(iii) apply aeronautical knowledge;

(iv) perform all duties as part of an integrated crew; and

(v) communicate effectively with the other flight crew members.

(e) **Medical fitness:** The applicant shall have established medical fitness on the basis of compliance with the requirements as laid down in rules 51 and 53.

(2) **Privileges:** The privileges of the holder of a flight navigator licence shall be to act as a flight navigator of any aircraft where a flight navigator is required to be carried. If privileges include radiotelephony communication, the licence holder shall comply with the requirements specified in sub-rule(31) of Rule 21A.

36. Deleted.

37. Flight engineer licence: (1) Requirements for the issue of the licence.- The applicant for the flight engineer licence shall satisfy the following requirements:

(a) **Age:** The applicant shall be not less than 18 years of age on the date of application;

(b) **Academic Qualification and Knowledge:** The applicant shall have passed at least Higher Secondary Certificate (Science) Examination or its equivalent and shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a flight engineer licence, in at least the following subjects:

Air law

(i) rules and regulations relevant to the holder of a Flight Engineer Licence; rules and regulations governing the operation of civil aircraft pertinent to the duties of a flight engineer;

Aircraft general knowledge

(ii) basic principles of powerplants, gas turbines and/or piston engines; characteristic of fuels, fuel systems including fuel control; lubricants and lubrication systems; afterburners and injection systems, function and operation of engine ignition and starter systems;

(iii) principles of operation, handling procedures and operating limitations of aircraft powerplants; effects of atmospheric conditions on engine performance;

(iv) airframes, flight controls, structures, wheel assemblies, brakes and anti-skid units, corrosion and fatigue life;

(v) ice and rain protection systems;

- (vi) pressurization and air-conditioning systems, oxygen systems;
- (vii) hydraulic and pneumatic systems;
- (viii) basic electrical theory, electric systems (AC and DC), aircraft wiring systems, bonding and screening;
- (ix) principles of operation of instruments, compasses, autopilots, radio communication equipment, radio and radar navigation aids, flight management systems, displays and avionics;
- (x) limitations of appropriate aircraft;
- (xi) fire protection, detection, suppression and extinguishing systems;
- (xii) use and serviceability checks of equipment and systems of appropriate aircraft;

Flight performance and planning

- (xiii) effects of loading and mass distribution on aircraft handling, flight characteristics and performance; mass and balance calculations;
- (xiv) use and practical application of performance data including procedures for cruise control;

Human performance

- (xv) human performance relevant to the flight engineer, including principles of threat and error management.

Operational procedures

- (xvi) principles of maintenance, procedures for the maintenance of airworthiness, defect reporting, pre-flight inspections, precautionary procedures for fuelling and use of external power; installed equipment and cabin systems;
- (xvii) normal, abnormal and emergency procedures;
- (xviii) operational procedures for carriage of freight and dangerous goods;

Principles of flight

- (xix) fundamentals of aerodynamics;

Radiotelephony

(xx) communication procedures and phraseology.

(c) The applicant should have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a flight engineer licence in at least the following subjects:

(i) fundamentals of navigation; principles and operation of self-contained systems; and

(ii) operational aspects of meteorology.

(d) **Experience:** (i) The applicant shall have completed, under the supervision of a person accepted by the Chairman for that purpose, not less than 100 hours of flight time in the performance of the duties of a flight engineer. Chairman shall determine whether experience as a flight engineer in a flight simulator, which it has approved, is acceptable as part of the total flight time of 100 hours, and credit for such experience shall be limited to a maximum of 50 hours.

(ii) When the applicant has flight time as a pilot, the Chairman determine whether such experience is acceptable and, if so, the extent to which the flight time requirements of sub-rule 1(d)(i) of this rule can be reduced accordingly.

(iii) The applicant shall have operational experience in the performance of the duties of a flight engineer, under the supervision of a flight engineer accepted by the Chairman for that purpose, at least in the following areas:

(A) Normal procedures

- pre-flight inspections
- fuelling procedures, fuel management
- inspection of maintenance documents
- normal flight deck procedures during all phases of flight
- crew co-ordination and procedures in case of crew incapacitation and
- defect reporting

(B) Abnormal and alternate (Standby) procedures

- recognition of abnormal functioning of aircraft systems
- use of abnormal and alternate (standby) procedures

(C) Emergency procedures

- recognition of emergency conditions
- use of appropriate emergency procedures

(e) **Skill:** (i) The applicant shall have demonstrated the ability to perform as flight engineer of an aircraft, the duties and procedures described in sub-rule 1(d)(iii) with a degree of competency appropriate to the privileges granted to the holder of a flight engineer licence, and to:

(A) recognize and management threats and errors;

(B) use aircraft systems within the aircraft's capabilities and limitations;

(C) exercise good judgment and airmanship;

(D) apply aeronautical knowledge;

(E) perform all the duties as part of an integrated crew with the successful outcome assured; and

(F) communicate effectively with the other flight crew members.

(ii) The use of a flight simulation-training device for performing any of the procedures required during the demonstration of skill described in 1(c) of this rule shall be approved by the Chairman, which shall ensure that the flight simulation-training device is appropriate to the task.

(f) **Medical fitness:** The applicant shall have established medical fitness on the basis of compliance with the requirements as laid down in Rules 51 and 53 of these rules.

(2) **Privileges:** (i) Subject to the endorsements and rating in the licence, the privileges of the holder of a flight engineer licence shall be to act as flight engineer of any type of aircraft on which the holder has demonstrated a level of knowledge and skill, as determined by the Chairman on the basis of those requirements specified in sub-rule (1) (b) and (1) (d) which are applicable to the safe operation of that type of aircraft."

(ii) The types of aircraft on which the holder of a flight engineer licence is authorized to exercise the privileges of that licence, shall be either entered on the licence or recorded also where in a manner acceptable to the Chairman..

38. (1) An applicant shall, before being issued with any licence or rating for personnel other than flight crew members, meet such requirements in respect of age, knowledge, experience and where appropriate, medical fitness and skill, as are specified for that licence or rating.

(2) An applicant, for any licence or rating for personnel other than flight crew members, shall demonstrate, in a manner determined by the Licensing Authority, such requirements in respect of knowledge and skill as are specified for that licence or rating.

38A. Aeronautical Station Operator Licence.- (1) Requirements for the issue of the Licence : An applicant for an Aeronautical Station Operator Licence shall meet the following requirements:

(a) **Age:** The applicant shall be not less than 18 years of age on the date of application.

(b) **Academic Qualification and Knowledge:** The applicant shall have passed Higher Secondary (Science) Examination or its equivalent and shall have demonstrated a level of knowledge appropriate to the holder of an Aeronautical Station Operator Licence, in at least the following subjects:

General knowledge

(i) Air traffic services provided within Bangladesh;

Operational procedures

(ii) Radiotelephony procedures; phraseology; telecommunications network;

Rules and regulations

(iii) Rules and regulations applicable to the aeronautical station operator, and

Telecommunication equipment

(iv) Principles, use and limitations of telecommunication equipment in aeronautical stations.

(c) **Experience:** The applicant shall have:

(i) satisfactorily completed an approved training course within the 12 month period immediately preceding application, and have served satisfactorily under a qualified aeronautical station operator for not less than two months; or

(ii) satisfactorily served under a qualified aeronautical station operator for not less than six months during the 12-month period immediately preceding application.

(d) **Skill:** The applicant shall have demonstrated, or have demonstrated, competency in:

(i) operating the telecommunication equipment in use; and

(ii) transmitting and receiving radiotelephony messages with efficiency and accuracy.

(2) **Privileges:** (a) the privileges of the holder of an Aeronautical Station Operator Licence shall be to act as an operator in an aeronautical station.

(b) before exercising the privileges of the licence, the holder shall be familiar with all pertinent and current information regarding the types of equipment and operating procedures use at that aeronautical station.

39. Aircraft Maintenance Engineer: (1) Requirement for the issue of the Licence: An applicant for the Aircraft Maintenance Engineer Licence shall meet the following requirements:

(a) **Age:** the applicant shall be not less than 18 years of age on the date of application;

(b) **Academic qualification and knowledge:** The applicant shall have passed at least Higher Secondary (Science) Examination or its equivalent or has obtained a Diploma in relevant branch of Aircraft Maintenance Technology or Mechanical, Electrical, Power or Electronics Engineering and shall have demonstrated a level of knowledge relevant to the privileges to be granted and appropriate to the responsibilities of an aircraft maintenance engineer licence holder, in at least the following subjects:

Air law and airworthiness requirements

(i) rules and regulations relevant to an aircraft maintenance engineer licence holder including applicable airworthiness requirements governing certification and continuing airworthiness of aircraft and approval aircraft maintenance organization and procedures,

Natural science and aircraft general knowledge

(ii) basic mathematics: units of measurements, fundamental principles and theory of physics and chemistry applicable to aircraft maintenance,

Aircraft engineering

(iii) characteristics and applications of the materials of aircraft construction including principles of construction and functioning of aircraft structures fastening techniques, powerplants and their associated systems, mechanical fluid, electrical and electronic power sources, aircraft instrument and display system, aircraft control systems, and airborne navigations and communications systems,

Aircraft maintenance

(iv) tasks required to ensure the continuing airworthiness of an aircraft including

methods and procedures for the overhaul, repair, inspection, replacement, modification or defect rectification of aircraft structures, components and system in accordance with the methods prescribed in the relevant Maintenance Manuals and the applicable Standards of airworthiness, and

Human performance

(v) human performance relevant to aircraft maintenance;

(c) **Experience:** the applicant shall have had the following experience in the inspection, servicing and maintenance of aircraft or its components:

(i) for the issue of a licence with privileges for the aircraft in its entirety, at least:

(A) four years ; or

(B) two years if the applicant has satisfactorily completed an approved training course; and

(ii) for the issue of a licence with privileges restricted in accordance with sub-rule (2)(b)(i) B. or (2)(b)(i) C a period of time that will enable a level of competency equivalent to that required in sub-rule (2)(b)(i) to be attained, provided that this is not less than:

(A) two years ; or

(B) such a period as the Chairman considers necessary to provide an equivalent level of practical experience to applicants who have satisfactorily completed an approved training course;

(d) **Training:** The applicant should have completed a course of training appropriate to the privileges to be granted.

(e) **Skill:** The applicant shall have demonstrated the ability to perform those functions applicable to the privileges to be granted;

(f) **Medical Fitness:** For the initial licence only the applicant shall have established medical fitness on the basis of compliance with the requirements as laid down in Rule 51(2).

(2) **Privileges:** (a) Subject to compliance with the requirements specified in sub-rule (2)(b) and (2)(c), the privileges of the holder of an Aircraft Maintenance Engineer Licence shall be to certify the aircraft or parts of the aircraft as airworthy after an authorized repair, modification or installation of a power plant, accessories, instrument, and/or item of equipment, and to sign a maintenance release following inspection, maintenance operations and/or routine servicing.

(b) The privileges of the holder of an Aircraft Maintenance Engineer Licence specified in sub-rule (2)(a) shall exercised only:

(i) in respect of:

(A) such aircraft as are entered on the licence in their entirety either specifically or under broad categories; or

(B) such airframes and powerplants and aircraft systems or components as are entered on the licence wither specifically or under broad categories; and/or

(C) such aircraft avionic systems or components as are entered on the licence either specifically or under broad categories;

(ii) provided that the licence holder is familiar wit all the relevant information relating to the maintenance and airworthiness of the particular aircraft for which the licence holder is signing a Maintenance Release, or such airframe, powerplant, aircraft system or component and aircraft avionic system or component which the licence holder is certifying as being airworthy; and

(iii) on condition that, within the preceding 24 months, the licence holder has either had experience in the inspection, servicing or maintenance of an aircraft or components in accordance with the privileges granted by the licence held for not less than six months, or has met the provision for the issue of a licence with the appropriate privileges, to the satisfaction of the Chairman.

(c) the Chairman through Air Navigation Order shall prescribe the scope of privileges of the licence holder in terms of the complexity of the task to which the certification relates.

(d) in case of authorizing and approved maintenance organization to appoint non licensed personnel to exercise the privileges of sub-rule (2) the person appointed shall meet the requirement specified in sub-rule (1).

40. Air Traffic Controller Licence.–(1) Requirements for the issue of the Air Traffic Controller Licence: The Chairman shall require an applicant for Air Traffic Controller Licence to meet the following requirements including at least one of the ratings set out in rule 41:

(a) **Age:** The applicant shall be not than 21 years of age on the date of application.

(b) **Academic Qualification and Knowledge:** The applicant shall have passed at least Higher Secondary Certificate (Science) Examination or its equivalent and shall have demonstrated a level of knowledge appropriate to the holder of an air traffic controller licence, in at least the following subjects:

Air law

- (i) rules and regulations relevant to the air traffic controller :

Air traffic control equipment

- (ii) Principles, use and limitations of equipment used in air traffic control ;

General knowledge

- (iii) principles of flight; principles of operation and functioning of aircraft, powerplants and systems; aircraft performances relevant to air traffic control operations;

Human performance

- (iv) human performance relevant to air traffic control.

Meteorology

- (vi) aeronautical meteorology; use and appreciation of meteorological documentation and information; origin and characteristics of weather phenomena affecting flight operations and safety; altimetry;

Navigation

- (vii) principles of air navigation; principle, limitation and accuracy of navigation systems and visual aids; and

Operational procedures

- (viii) air traffic control, communication, radiotelephony and phraseology procedures (routine, non-routine and emergency); use of the relevant aeronautical documentation; safety practices associated with flight.

(c) **Experience:** The applicant shall have completed an approved training course and not less than three months satisfactory service engaged in the actual control of air traffic under the supervision of an appropriately rated air traffic controller. The experience requirements specified for air traffic controller ratings in sub rule (1) of rule 40 may be credited as part of the experience specified in this paragraph.

(d) **Medical fitness:** The applicant shall hold medical fitness on the basis of compliance with the requirements as laid down in rules 51 and 54.

41. Air Traffic Controller Ratings.- (1) Categories of Air Traffic Controller Ratings- Air traffic controller ratings shall comprise the following categories-

- (a) aerodrome control rating;
- (b) approach control rating;
- (c) approach radar control rating;
- (d) approach precision radar control rating;
- (e) area control rating; and
- (f) area radar control rating;

(2) **Requirement for air traffic controller ratings.-** (a) **Knowledge:** the Chairman shall require the applicant to demonstrate a level of Knowledge appropriate to the privileges granted, in at least the following subjects in so far as they affect the area of responsibility;

- (i) aerodrome control rating-
 - (A) aerodrome layout, physical characteristics and visual aids,
 - (B) airspace structure,
 - (C) applicable rules, procedures and source of information,
 - (D) air navigation facilities,
 - (E) air traffic control equipment and its use,
 - (F) terrain and prominent landmarks,
 - (G) characteristics of air traffic,
 - (H) weather phenomena, and
 - (I) emergency and search and rescue plans,
- (ii) approach control and area control ratings
 - (A) airspace structure,
 - (B) applicable rules, procedures and source of information,
 - (C) air navigation facilities,
 - (D) air traffic control equipment and its use,

- (E) terrain and prominent landmarks,
- (F) characteristics of air traffic and traffic flow,
- (G) weather phenomena, and
- (H) emergency and search and rescue plans,

(iii) approach radar, approach precision radar and area radar control ratings- the applicant shall meet the requirements specified in sub-rule (2) (a) (ii) in so far as they affect the area of responsibility, and shall have demonstrated a level of knowledge appropriate to the privileges granted in at least the following additional subjects-

- (A) principles, use and limitations of radar, other surveillance systems and associated equipment, and
- (B) procedures for the provision of approach, precision approach or area radar control services, as appropriate including procedures to ensure appropriate terrain clearance;

(b) Experience: (i) the applicant shall have-

- (A) satisfactorily completed an approved training course under the supervision of an appropriately rated air traffic controller-,
- (B) aerodrome control rating : an aerodrome control service, for a period of not less than 90 hours or one month', whichever is greater, at the unit for which the rating is sought,
- (C) approach, approach radar, area or area radar control rating, the control service for which the rating is sought, for a period of not less than 180 hours or three, months, whichever is greater, at the unit for which the rating is sought, and
- (D) approach precision radar control rating-not less than 200 precision approaches of which not more than 100 shall have been carried out on a radar simulator approved for that purpose by the Chairman. Not less than 50 of those precision approaches shall have been carried out at the unit and on the equipment for which the rating is sought,

(ii) if the privileges of the approach radar control rating include surveillance radar approach duties, the experience shall include not less than 25 plan position indicator (PPI) approaches on the surveillance equipment of the type in use at the unit for which the rating is sought and under the supervision of an appropriately rated approach radar controller,

(iii) The experience specified in sub-rule (2)(b)(ii) shall have been completed within the 6-month period immediately preceding application.

(iv) when the applicant already holds an air traffic controller rating in another category, or the same rating for another unit, the Chairman may reduce the experience requirement specified in this sub-rule;

(c) **Skill:** the applicant shall have demonstrated at a level appropriate to the privileges being granted, the skill, judgement and performance required to provide a safe, orderly and expeditious control service;

(3) **Concurrent issuance of two air traffic controller ratings:** when two air traffic controller ratings are sought concurrently, the Chairman shall determine the applicable requirements on the basis of the requirements for each rating, and these requirements shall not be less than those of the more demanding rating.

(4) **Privileges:** (a) the privileges of the holder of Air Traffic Controller Licence endorsed with one or more for the under mentioned ratings shall be:-

(i) aerodrome control rating: to provide or to supervise the provision of aerodrome control service for the aerodrome for which the licence holder is rated,

(ii) approach control rating: to provide or to supervise the provision of aerodrome control service for the aerodrome or aerodromes for which the licence holder is rated, 'within the airspace or portion thereof, under the jurisdiction of the unit providing approach control service,

(iii) approach radar control rating: to provide and/or supervise the provision the aerodrome or aerodromes for which the licence holder is rated, within the airspace or portion thereof, under the jurisdiction of the, unit providing approach control service, and subject to compliance with the provision of sub-rule (2)(b)(iii) the privileges shall include the provision of surveillance radar approaches;

(iv) approach precision radar control rating: to provide and/or supervise the provision of precision approach radar service at the aerodrome for which the licence holder is rated,

(v) area control rating: to provide and/or supervise the provision of area control service within the control area or portion thereof, for which the licence holder is rated; and

(vi) area radar control rating: to provide and/or supervise the provision of area control service with the use of radar, within the control area or portion thereof, for which the licence holder is rated;

(b) before exercising the privileges indicated in sub-rule (4)(a) the licence holder shall

be familiar with all pertinent and current information.

(5) **Validity of ratings:** A rating shall become invalid when an air traffic controller has ceased to exercise the privileges of the rating for a period exceeding six months, and a rating shall remain invalid until the controller's ability to exercise the privileges of the rating has been re-established.

(6) A Contracting State having issued an air traffic controller licence shall not permit the holder thereof to carry out instruction in an operational environment unless such holder has received proper authorization from such Contracting State.”;

42. Flight Operations Officer Licence.- (1) Requirements for the issue of the Licence: A person engaged in, or intended to be engaged in any phase of airline flight operations may apply to the Chairman for the grant of a Flight Operations Officer Licence, and the Chairman shall require the applicant for the licence to meet the following requirements:

(a) **Age:** The applicant shall be not less than 21 years of age on the date of application.

(b) **Academic qualification and Knowledge:** The applicant shall have passed at least Higher Secondary Certificate (Science) Examination or its equivalent and shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a Flight Operations Officer Licence, in at least the following subjects:

Air law

(i) rules and regulations relevant to the holder of a flight operations officer licence; appropriate air traffic services practices and procedures;

Aircraft general knowledge

(ii) principles of operation of aeroplane power plants, systems and instruments;

(iii) operating limitations of aeroplanes and power plants,

(iv) minimum equipment list,

Flight performance calculation and planning procedures

(v) effects of loading and mass distribution on aircraft performance and flight characteristics; mass and balance calculations;

(vi) operational flight planning; fuel consumption and endurance calculations; alternate airport selection procedures; en-route cruise control; extended range operations;

(vii) preparation and filing of air traffic services flight plans;

(viii) basic principles of computer-assisted planning systems;

Human Performance

(ix) human performance relevant to dispatch duties;

Meteorology

(x) aeronautical meteorology; the movement of pressure systems; the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;

(xi) interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining , meteorological information;

Navigation

(xi) principles of air navigation with particular reference to instrument flight;

Operational procedures

(xii) use of aeronautical documentation;

(xiii) operational procedures for the carriage of freight and dangerous goods;

(xiv) procedures relating to aircraft accidents and incidents; emergency flight procedures;

(xv) procedures relating to unlawful interference and sabotage of aircraft;

Principles of flight

(xvi) principles of flight relating to the appropriate category of aircraft; and

Radio communication

(xvii) procedures for communicating with aircraft and relevant ground stations.

(c) **Experience:** The applicant shall have gained the following experience:

(i) a total of two years service in any one or in any combination of the capacities specified in (A) to (C) inclusive, provided that in any combination of experience the period serviced in any capacity shall be at least one year:

(A) a flight crew member in air transportation : or

(B) a meteorologist in an organization dispatching aircraft in air transportation; or

(C) an air traffic controller; or a technical supervisor of flight operations officers or air transportation flight operations systems; or

(ii) at least one year as an assistant in the dispatching of air transport; or

(iii) have satisfactorily completed a course of approved training.

(iv) The applicant shall have served under the supervision of a flight operations officer for at least 90 working days within the six months immediately preceding the application.

(d) **Skill:** The applicant shall have demonstrated the ability to:

(i) make an accurate and operationally acceptable weather analysis from a series of daily weather maps and weather reports : provide an operationally valid briefing on weather conditions prevailing in the general neighbourhood of a specific air route; forecast weather trends pertinent to air transportation with particular reference to destination and alternates;

(ii) determine the optimum flight path for a given segment and create accurate manual and/or computer generated flight plan; and

(iii) provide operating supervision and all other assistance to a flight in actual or simulated adverse weather conditions, as appropriate to the duties of the duties of the holder of a Flight Operations Officer Licence.

(2) **Privileges:** The privileges of the holder of a Flight Operations Officer Licence shall be to serve in that capacity with responsibility for each area for which the applicant meets the requirements specified in Part VI of these rules.

43. Licence or Certificate issued by authorities outside Bangladesh.- (1) When any person who is holder of a valid licence or certificate issued by the competent authority of any other State in conformity with at least the minimum conditions required under Annex 1 of the Convention, the Chairman may grant a licence or certificate appropriate to the qualifications and experience of the person subject to such conditions and limitations as he thinks fit, or confer validation on the person's licence or certificate for the purpose of operating as a flight crew member or the maintenance engineer of Bangladesh registered aircraft or operating aircraft radio apparatus in Bangladesh.

44. Curtailment of Privileges of pilots.- The Chairman, having issued pilot licences, shall not permit the holders thereof to act as pilot-in-command of an aircraft engaged in

international commercial air transport operations if the licence holders have attained their 60th birthday or, in the case of operations with more than one pilot where the other pilot is younger than 60 years of age, their 65th birthday.

The Chairman, having issued pilot licences, should not permit the holders thereof to act as co-pilot of an aircraft engaged in international commercial air transport operations if the licence holders have attained their 65th birthday.

45. Deleted.

46. Flight Instruction: (1) Every aircraft which is being used for the purpose of giving instructions in piloting shall have a dual control.

(2) No person other than a person having a Flight Instructor's rating shall impart instructions in piloting an aircraft.

47. Flight Navigator. -Every public transport aircraft engaged on a flight without landing over a distance of 1,610 km (1,000 miles) over water and 2,415 km (1,500 miles) over land unless equipped with one INS and Doppler or two INS shall carry on board a Flight Navigator licensed in accordance with these rules:

Provided that the Chairman may require a Flight Navigator to be carried on board an aircraft on any flight.

48. Flight Engineer.- When a separate flight Engineer's station is incorporated in the design of an aircraft, the flight crew shall include at least one licensed flight engineer.

49. Deleted.

50. Deleted.

51. Medical Standards and Assessment.- (1) General : The Medical Standards specified in these Rules cannot, on their own, be sufficiently detailed to cover all possible individual situations. Of necessity, many decisions relating to the evaluation of medical fitness are left to the judgment of the individual medical examiner. The evaluation shall, therefore, be based on a medical examination conducted throughout in accordance with the highest standards of medical practice. Predisposing factors for disease, such as obesity and smoking, may be important for determining whether further evaluation or investigation is necessary in an individual case. In cases where the applicant does not fully meet the medical requirements and in complicated and unusual cases, the evaluation may have to be deferred and the case submitted to the medical assessor as specified by the Chairman for final evaluation. In such cases due regard shall be given to the privileges granted by the licence applied for or held by the applicant for the Medical Assessment, and the conditions under which the licence holder is going to exercise those privileges in carrying out assigned duties.

(2) Requirements of Medical Assessment:

(a) An applicant for a licence or rating, when applicable, shall undergo a Medical Assessment with approved medical examiners and satisfy the Medical Standards specified in these Rules. The applicant for a Medical Assessment shall undergo a Medical Assessment based on the following requirements:

- (i) physical and mental;
- (ii) visual and colour perception ; and
- (iii) hearing.

(b) **Physical and mental requirements:** An applicant for any class of Medical Assessment shall be required to be free from-

- (i) any abnormality, congenital or acquired; or
- (ii) any active, latent, acute or chronic disability; or
- (iii) any wound, injury or sequelae from operation; or
- (iv) any effect or side-effect of any prescribed or non-prescribed therapeutic, diagnostic or preventive medication taken; such as would entail a degree of functional incapacity which is likely to interfere with the safe operation of an aircraft or with the safe performance of duties; use of herbal medication and alternative treatment modalities requires particular attention to possible side-effects.

(c) **Visual acuity test and Colour perception requirements:** (i) The methods in use for the measurement of visual acuity are likely to lead to differing evaluation. To achieve uniformity, therefore, Contracting States shall ensure that equivalence in the methods of evaluation be obtained.

(ii) The following should be adopted for tests of visual acuity:

(A) Visual acuity tests should be conducted in an environment with a level of illumination that corresponds to ordinary office illumination (30-60 cd/m²)

(B) Visual acuity should be measure by means of a series of Landolt rings or similar optotypes, placed at a distance from the applicant appropriate to the method of testing adopted.

(iii) Methods of examination shall be such as to guarantee reliable testing of colour perception.

(iv) The applicant shall be required to demonstrate the ability to perceive readily those colours the perception of which is necessary for the safe performance of

duties.

(v) The applicant shall be tested for the ability to correctly identify a series of pseudoisochromatic plates in daylight or in artificial light of the same colour temperature such as that provided by CIE standard illuminants C or D₆₅ as specified by the International Commission on Illumination (CIE).

(vi) An applicant obtaining a satisfactory result as prescribed by the Licensing Authority shall be assessed as fit. An applicant failing to obtain a satisfactory result in such a test shall be assessed as unfit unless able to readily distinguish the colours used in air navigation and correctly identify aviation coloured lights. Applicants who fail to meet these criteria shall be assessed as unfit except for Class 2 assessment with the following restriction: valid daytime only.

(vii) Sunglasses worn during the exercise of the privileges of the licence or rating held should be non-polarizing and of a neutral grey tint.

(d) **Hearing test requirements:** (i) Methods of examination shall be such as to guarantee reliable testing of hearing;

(ii) Applicants shall be required to demonstrate a hearing performance sufficient for the safe exercise of their licence and rating privileges;

(iii) Applicants for Class 1 Medical Assessments shall be tested by pure-tone audiometry at first issue of the Assessment, not less than once every five years up to the age of 40 years, and thereafter not less than once every two years. Alternatively, other methods providing equivalent results may be used;

(iv) Applicants for Class 3 Medical Assessments shall be tested by pure-tone audiometry at first issue of the Assessment, not less than once every five years up to the age of 40 years, and thereafter not less than once every two years. Alternatively, other methods providing equivalent results may be used;

(v) Applicants for Class 2 Medical Assessment should be tested by pure-tone audiometry at first issue of the Assessment and, after the age of 50 years, not less than once every two years;

(vi) At medical examinations, other than those mentioned in sub-rule 2(b) (iii), 2(b)(iv) and 2(b)(v) where audiometry is not performed, applicants shall be tested in a quiet room by whispered and spoken voice testes;

Note 1: The reference zero for calibration of pure-tone audiometers is that of the pertinent Standards of the current edition of the Audiometric Test Methods, published by the International Organization for Standardization (ISO);

Note 2: For the purpose of testing hearing in accordance with the requirements, a quiet room is a room in which the intensity of the background noise is less than 35 dB(A);

Note 3: For the purpose of testing hearing in accordance with the requirements, the sound level of an average conversation voice at 1 m from the point of output (lower lip of the speaker) is c.60 dB(A) and that of a whispered voice c.45dB(A). At 2 m from the speaker, the sound level is 6 dB(A) lower.

(3) **Classes of Medical Assessment:** Medical assessments shall be of the following classes:

(a) **Class 1 Medical Assessment:** Class 1 Medical Assessment shall be applicable to applicants for, and holders of:

- (i) commercial pilot licences for aeroplane, airship, helicopter and powered-lift,
- (ii) multi-crew pilot licences for aeroplane,

(iii) airline transport pilot licence for aeroplane, helicopter, and powered-lift,

(b) **Class 2 Medical Assessment:** Class 2 Medical Assessment shall be applicable to applicants for, and holders of:

(i) flight navigator licences,

(ii) flight engineer licences;

(iii) private pilot licences for aeroplane, airship, helicopter, and powered-lift,

(iv) glider pilot licences,

(v) free balloon pilot licences.

(c) **Class 3 Medical Assessment:** Class 3 Medical Assessment shall be applicable to applicants for, and holders of Air Traffic Controller Licences.

(4) **Duration of the Medical Assessment:** The duration of the period of validity shall be in accordance with the provisions of 21A(19).

(5) **Other Provisions:** (a) An applicant for a licence shall, when applicable, hold a Medical Assessment issued in accordance with the provisions of this Part.

(b) The period of validity of a Medical Assessment shall begin on the day the medical examination is performed.

(c) The period of validity of a Medical Assessment may be extended, at the discretion of the Chairman, up to 45 days.

(d) Chairman shall designate medical examiners, qualified and licensed in the practice of medicine, to conduct medical examinations of fitness of applicants for the issue or renewal

of the appropriate licence specified in this Part.

(e) Except as provided in sub rule (22) of rule 21A flight crew members or air traffic controllers shall not exercise the privileges of their licence unless they hold a current Medical Assessment appropriate to the licence.

(f) Medical examiners shall have received training in aviation medicine and shall receive refresher training at regular intervals. Before designation, medical examiners shall demonstrate adequate competency in aviation medicine.

(g) Medical examiners shall have practical knowledge and experience of the conditions in which the holders of licences and ratings carry out their duties.

(h) Except as provided in Rule 21A (24), flight crew members or air traffic controllers shall not exercise the privileges of their licence unless they hold a current Medical Assessment appropriate to the licence.

(i) The applicant for a Medical Assessment shall provide the medical examiner with a personally certified statement of medical facts concerning personal, familial and hereditary history. The applicant shall be made aware of the necessity for giving a statement that is as complete and accurate as the applicant's knowledge permits, and any false statement shall be dealt with in accordance with the sub-rule (5)(1) of this rule.

(j) The medical examiner shall report to the Licensing Authority any individual case where, the examiner's judgement, an applicant's failure to meet any requirement, whether numerical or otherwise, is such that exercise of the privileges of the licence being applied for, or held, is not likely to jeopardize flight safety.

(k) Applicant for licence or ratings for which medical fitness is prescribed shall sign and furnish to the medical examiner a declaration stating whether he has previously undergone such an examination and, if so, the date, place and result of the last examination. He shall indicate to the examiner whether a Medical Assessment has previously been refused, revoked or suspended and, if so, the reason for such refusal, revocation or suspension.

(l) Any false declaration to a medical examiner made by an applicant for a licence or rating shall be reported to the Chairman for such action as may be considered appropriate.

(m) Having completed the medical examination of the applicant in accordance with the requirements this Part, the medical examiner shall coordinate the results of the examination and submit a signed report, or equivalent, to the Chairman, in accordance with its requirements, detailing the results of the examination and evaluating the findings with regard to medical fitness.

(n) If the medical report is submitted to the Chairman in electronic format, adequate identification of the examiner shall be established.

(o) If the medical examination is carried out by two or more medical examiners,

Chairman shall appoint one of these to be responsible for coordinating the results of the examination, evaluating the findings with regard to medical fitness, and signing the report.

(p) Chairman shall use the services of medical assessors to evaluate reports submitted to the Chairman by medical examiners.

(q) The medical examiner shall be required to submit sufficient medical information to the Chairman to enable him to audit Medical Assessments.

(r) If the medical Standards prescribed in this Part for a particular licence are not met, the appropriate Medical Assessment shall not be issued or renewed unless the following conditions are fulfilled:

(i) accredited medical conclusion indicates that in special circumstances the applicant's failure to meet any requirement, whether numerical or otherwise, is such that exercise of the privileges of the licence applied for is not likely to jeopardize flight safety;

(ii) relevant ability, skill and experience of the applicant and operational conditions have been given due consideration ; and

(iii) the licence is endorsed with any special limitation or limitations when the safe performance of the licence holder's duties is dependent on compliance with such limitation or limitations.

(s) Medical confidentiality shall be respected at all times.

(t) All medical reports and records shall be securely held with accessibility restricted to authorized personnel.

(u) When justified by operational considerations, the medical assessor shall determine to what extent pertinent medical information is presented to relevant officials of the Chairman.

(v) the medical requirements for renewal of a licence or rating shall be the same as those for initial issue of that licence or rating, except where otherwise specifically stated;

(w) Holders of licences under Part 1 of these Rules shall not exercise privileges of their licences and related ratings or authorizations at any time when they are aware of any decrease in their medical fitness, which might render them unable to safely and properly exercise those privileges.

(x) Licence holders should inform the Chairman of confirmed pregnancy or any decrease in medical fitness of duration of more than 20 days or which requires continued treatment with prescribed medication or which has required hospital treatment.

(y) Methods should be established to ensure that licence holders do not exercise the

privileges of their licences and related ratings during any period, which their medical fitness has, from any cause, decreased to an extent that would have prevented the issue or renewal of their Medical Assessment.

(z) Holders of licences provided for in this Part shall not engage in any problematic use of substances. Methods should be established to ensure that all licence holders who engage in any kind of problematic use of substances are identified and removed from their safety-critical functions. Return to the safety-critical functions may be considered after successful treatment or, in cases where no treatment is necessary, after cessation of the problematic use of substances and upon determination that the person's continued performance of the function is unlikely to jeopardize safety.

(aa) The prescribed re-examination of a licence holder operating in an area distant from designated medical examination facilities may be deferred at the discretion of the Chairman, provided that such deferment shall only be made as an exception and shall not exceed.

(i) a single period of six months in the case of a flight crew member of an aircraft engaged in non-commercial operations;

(ii) two consecutive periods each of three months in the case of a flight crew member of an aircraft engaged in commercial operations provided that in each case a favourable medical report is obtained after examination by a designated medical examiner of the area concerned, or, in cases where such a designated medical examiner is not available, by a physician legally qualified to practise medicine in that area. A report of the medical examination shall be sent to the Chairman where the licence was issued;

(iii) in the case of a private pilot, a single period not exceeding 24 months where the medical examination is carried out by an examiner designated by the Contracting State in which the applicant is temporarily located. A report of the medical examination shall be sent to the Chairman where the licence was issued.

(ab) Use of psychoactive substances: Holders of licences provided for in this Part shall not exercise the privileges of their licences and related ratings while under the influence of any psychoactive substance which might render them unable to safely and properly exercise these privileges.

52. Class 1 Medical Assessment.- (1) Assessment, issue and renewal: (a) An applicant for a Commercial Pilot Licence for aeroplane or helicopter, an Airline Transport Pilot Licences for aeroplane or helicopter Licence shall undergo an initial medical examination for the issue of a Class 1 Medical Assessment.

(b) Except where otherwise stated in these rules, holders of Commercial Pilot Licences for aeroplane or helicopter, Airline Transport Pilot Licences for aeroplane or helicopter, Flight Engineer Licences or Flight Navigator Licences shall have their Class 1

Medical Assessments renewed at intervals specified in rule 51(3).

(c) When the Chairman is satisfied that the requirements under these Rules have been met, a Class 1 Medical Assessment shall be issued to the applicant.

(2) **Physical and mental requirements:** (a) The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable either to operate an aircraft safely or to perform assigned duties safely.

(b) The applicant shall have no established medical history or clinical diagnosis of:

(i) an organic mental disorder;

(ii) a mental or behavioural disorder due to use of psychoactive substances; this includes dependence syndrome induced by alcohol or other psychoactive substances;

(iii) schizophrenia or a schizotypal or delusional disorder;

(iv) a mood (affective) disorder;

(v) a neurotic, stress-related or somatoform disorder;

(vi) a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;

(vii) a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;

(viii) mental retardation;

(ix) a disorder of psychological development;

(x) a behavioural or emotional disorder, with onset in childhood or adolescence;
or

(xi) a mental disorder not otherwise specified;

such as might render the applicant unable to safely exercise the privileges of the licence applied for or held.

(c) The applicant shall have no established medical history or clinical diagnosis of any of the following:

(i) a progressive or non-progressive disease of the nervous system, the effects of which, are likely to interfere with the safe exercise of the applicant's licence and rating privileges;

- (ii) epilepsy; or
 - (iii) any disturbance of consciousness without satisfactory medical explanation of cause.
- (d) The applicant shall not have suffered any head injury, the effects of which, are likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- (e) The applicant shall not possess any abnormality of the heart, congenital or acquired which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- (f) An applicant who has undergone coronary by-pass re-grafting or angioplasty (with or without stenting) or other cardiac intervention or who has a history of myocardial infarction or who suffers from any other potentially incapacitating cardiac condition shall be assessed as unfit unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- (g) An applicant with an abnormal cardiac rhythm shall be assessed as unfit unless the cardiac arrhythmia has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- (h) Electrocardiography shall form part of the heart examination for the first issue of a Medical Assessment. Electrocardiography shall be in re-examinations of applicants over the age of 50 no less frequently than annually.
- (i) Electrocardiography should be included in re-examinations of applicants between the ages of 30 and 50 no less frequently than every two years.
- Note: The purpose of routine electrocardiography is case findings. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.*
- (j) The systolic and diastolic blood pressures shall be within normal limits.
- (k) The use of drugs for control of high blood pressure shall be disqualifying except for those drugs, the use of which, is compatible with the safe exercise of the applicant's licence and rating privileges.
- (l) There shall be no significant functional nor structural abnormality of the circulatory system.

(m) There shall be no acute disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleurae likely to result in incapacitating symptoms during normal or emergency operations.

(n) Chest radiography should form a part of the initial examination.

Note: Periodic chest radiography is usually not necessary but may be a necessity in situations where asymptomatic pulmonary disease can be expected.

(o) Applicants with chronic obstructive pulmonary disease shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

(p) Applicants with asthma causing significant symptoms or likely to cause incapacitating symptoms during normal or emergency operations shall be assessed as unfit.

(q) The use of drugs for control of asthma shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.

(r) Applicants with active pulmonary tuberculosis shall be assessed as unfit.

(s) Applicants with quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.

(t) Applicants with significant impairment of function of the gastrointestinal tract or its adnexa shall be assessed as unfit.

(u) Applicants shall be completely free from those hernias that might give rise to incapacitating symptoms.

(v) Applicants with sequelae of disease of, or surgical intervention on, any part of the digestive tract or its adnexae, likely to cause incapacitation in flight, in particular any obstructions due to stricture or compression shall be assessed as unfit.

(w) An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its adnexae with a total or partial excision or a diversion of any of these organs should be assessed as unfit until such time as the medical assessor, having access to the details of the operation concerned, considers that the effects of the operation are not likely to cause incapacitation in flight.

(x) Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.

(y) Applicants with insulin treated diabetes mellitus shall be assessed as unfit.

(aa) Applicants with non-insulin treated diabetes mellitus shall be assessed as unfit unless the condition is shown to be satisfactorily controlled by diet alone or by diet combined with oral anti-diabetic medication, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.

(ab) Applicants with diseases of the blood and/or the lymphatic system shall be assessed as unfit unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges. Sickle cell trait or other haemoglobinopathic traits are usually compatible with a fit assessment.

(ac) Applicants with renal or genito-urinary disease shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.

(ad) Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.

(ae) Applicants with sequelae of disease of or surgical procedures on the kidneys or the genito-urinary tract, in particular obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

(af) Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.

(ag) Applicants with acquired immunodeficiency syndrome (AIDS) shall be assessed as unfit.

(ah) Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless full investigation provides no evidence of clinical disease.

Note: Evaluation of applicants who are seropositive for human immunodeficiency virus (HIV) requires particular attention to their mental state, including the psychological effects of the diagnosis.

(ai) Applicants with gynaecological disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.

(aj) Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk uncomplicated pregnancy.

(ak) For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with 2(jj), the fit assessment should be limited to the period

from the end of the 12th week until the end of the 26th week of gestation.

(al) Following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her licence until she has undergone re-evaluation in accordance with best medical practice and it has been determined that she is able to safely exercise the privileges of her licence and ratings.

(am) The applicant shall not possess any abnormality of the bones, joints, muscles, tendons or related structures, which is likely to interfere with the safe exercise of the applicant's licence and rating privileges. Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

(an) The applicant shall not possess any abnormality or disease of the ear or related structures, which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(ao) There shall be :

- (i) no disturbance of vestibular function;
- (ii) no significant dysfunction of the Eustachian tubes; and
- (iii) no unhealed perforation of the tympanic membranes.

(ap) A single dry perforation of the tympanic membrane need not render the applicant unfit.

(aq) There shall be :

- (i) no nasal obstructions; and
- (ii) no malformation nor any disease of the buccal cavity or upper respiratory tract which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(ar) Applicants with stuttering or other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.

(3) **Visual requirements:** (a) The function of the eyes and their adnexae shall be normal; there shall be no active pathological condition, acute or chronic, of either eye or adnexae which is likely to interfere with its proper function to an extent that would interfere with the safe exercise of the applicant's licence and rating privileges.

(b) Distant visual acuity with or without correction shall be 6/9 or better in each eye separately, and binocular visual acuity shall be 6/6 or better; no limits apply only to uncorrected visual acuity, and where this standard of visual acuity can be obtained only with

correcting lenses, the applicant may be assessed as fit provided that:

- (i) Such the correcting lenses are worn during the privileges of the licence or rating applied for or held; and
- (ii) In addition, a pair of a suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's licence.

Note: An applicant accepted as meeting these provisions is deemed to continue to do so unless there is reason to suspect otherwise, in which case an ophthalmic report is required at the discretion of the Chairman, Both uncorrected and corrected visual acuity are normally measured and recorded at each re-examination. Conditions which indicate a need to obtain an ophthalmic report include: a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity, and the occurrence of eye disease, eye injury or eye surgery.

(c) Applicants may use contact lenses to meet this requirement provided that:

- (i) The lenses are monofocal and non-tinted;
- (ii) The lenses are well tolerated; and
- (iii) A pair of suitable correcting spectacles is kept readily available during the exercise of the licence privileges.

Note: Applicants who use contact lenses may not need to have their uncorrected visual acuity measured at each re-examination provided the history of their contact lens prescription is known.

(d) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses; if spectacles are used, high-index lenses are needed to minimize peripheral field distortion.

(e) Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 shall be required to provide a full ophthalmic report prior to initial Medical Assessment and every five years thereafter.

Note: The purpose of the required ophthalmic examination is to ascertain normal visual performance, and to identify any significant pathology.

(f) Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae which are likely to interfere with the safe exercise of their licence and rating privileges.

(g) (i) the applicant shall have the ability to read, while wearing the correcting lenses, if any, required by rule 52(3)(b), the N5 chart or its equivalent at a distance selected

by that applicant in the range of 30 to 50 cm and the ability to read the N14 chart or its equivalent at a distance of 100 cm; if this requirements is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correction already prescribed in accordance with rule 52(3)(b); if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the licenses;

Note: N5 and N14 refer to the size of typeface used. For further details, see the Manual of Civil Aviation Medicine (Doc 8984).

(ii) when near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements;

(h) When near correction is required in accordance with this paragraph, a second pair of near- correction spectacles shall be kept available for immediate use.

(i) The applicant shall be required to have normal fields of vision.

(j) The applicant shall be required to have normal binocular function.

(k) Reduced stereopsis, abnormal convergence not interfering with-near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia need not be disqualifying.

(4) **Hearing requirements:** (a) The applicant, when tested on a pure-tone audiometer, shall not have a hearing loss, in either ear separately, of more than 35 dB at any of the frequencies 500, 1000 or 2000 Hz, or more than 50 dB at 3000 Hz.

(b) An applicant with a hearing loss greater than the above may be declared fit provided that the applicant has normal hearing performance against a background noise that reproduces or simulates the masking properties of flight deck noise upon speech and beacon signals.

Note 1.- It is important that the background noise is representative of the noise in the cockpit of the type of aircraft for which the applicant's licence and ratings are valid.

Note 2.- In the speech material for discrimination testing, both aviation relevant phrases and phonetically balanced words are normally used.

(c) Alternatively, a practical hearing test conducted in flight in the cockpit of an aircraft of the type for which the applicant's licence and ratings are valid may be used.

53. Class 2 Medical Assessment: (1) Assessment, issue and renewal.- (a) An applicant for a Private Pilot Licence for aeroplane or helicopter, Flight Engineer Licences or Flight Navigator Licences a Glider Pilot Licence or a Free Balloon Pilot Licence shall undergo an

initial medical examination for the issue of a Class 2 Medical Assessment;

(b) Except where otherwise stated in these Rules, holders of Private Pilot Licences for Aeroplane, airship, helicopter or powered-lift, glider pilot licenses, free balloon pilot licenses, flight engineer licenses or flight navigator licenses shall have their class 2 medical assessments renewed at intervals not exceeding those specified in rule-51(4).

(c) When the Chairman is satisfied that the requirements of these rules have been met, a Class 2 Medical Assessment shall be issued to the applicant.

(2) **Physical and mental requirements:** (a) The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable either to operate an aircraft safely or to perform assigned duties safely;

(b) The applicant shall have no established medical history or clinical diagnosis of:

(i) an organic mental disorder;

(ii) a mental or behavioural disorder due to psychoactive substances; this includes dependence syndrome induced by alcohol or other psychoactive substances;

(iii) schizophrenia or a schizotypal or delusional disorder;

(iv) a mood (affective) disorder;

(v) a neurotic, stress-related or somatoform disorder;

(vi) a behavioural syndrome associated with physiological disturbances or physical factors;

(vii) a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;

(viii) mental retardation;

(ix) a disorder of psychological development;

(x) a behavioural or emotional disorder, with onset in childhood or adolescence;
or

(xi) a mental disorder not otherwise specified; such as might render the applicant unable to safely exercise the privileges of the licence applied for or held.

(c) The applicant shall have no established medical history or clinical diagnosis of any of the following:

(i) a progressive or non-progressive disease of the nervous system, the effects of

which; are likely to interfere with the safe exercise of the applicant's licence and rating privileges;

(ii) epilepsy;

(iii) any disturbance of consciousness without satisfactory medical explanation of cause.

(d) The applicant shall not have suffered any head injury, the effects of which, are likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(e) The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(f) An applicant who has undergone coronary by-pass grafting or angioplasty (with or without stenting) or other cardiac intervention or who has a history of myocardial infarction or who suffers from many other potentially incapacitating cardiac conditions shall be assessed as unfit unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

(g) An applicant with an abnormal cardiac rhythm shall be assessed as unfit unless the cardiac arrhythmia has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

(h) Electrocardiography shall form part of the heart examination for the heart examination for the first issue of Medical Assessment after the age of 40.

(i) Electrocardiography shall form part of the heart examinations of applicants after the age of 50 no less than every two years.

(j) Electrocardiography should form part of the heart examination for the first issue of a Medical Assessment.

Note: The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.

(k) The systolic and diastolic blood pressures shall be within normal limits.

(l) The use of drugs for control of high blood pressure shall be disqualifying except for those drugs, the use of which, is compatible with the safe exercise of the

applicant's licence and rating privileges.

(m) There shall be no significant functional nor structural abnormality of the circulatory system.

(n) There shall be no disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleura likely to result in incapacitating symptoms during normal or emergency operations.

(o) Chest radiography should form part of the initial and periodic examinations in cases where asymptomatic pulmonary disease can be expected.

(p) Applicants with chronic obstructive pulmonary disease shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

(q) Applicants with asthma causing significant symptoms or likely to cause incapacitating symptoms during normal or emergency operations shall be assessed as unfit

(r) The use of drugs for control of asthma shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.

(s) Applicants with active pulmonary tuberculosis shall be assessed as unfit.

(t) Applicants with quiescent or healed lesions, known to be tuberculous or presumably tuberculous in origin, may be assessed as fit.

(u) Applicants shall be completely free from those hernias that might give rise to incapacitating symptoms.

(v) Applicants with significant impairment of the function of the gastrointestinal tract or its adnexa shall be assessed as unfit.

(w) Applicants with sequelae of disease of or surgical intervention on any part of the digestive tract or its adnexa, likely to cause incapacitation in flight, in particular any obstructions due to stricture or compression, shall be assessed as unfit.

(x) An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its with a total or partial excision or a diversion of any of these organs should be assessed as unfit until such time as the medical assessor, having access to the details of the operation concerned, considers that the effects of the operation are not likely to cause incapacitation in flight.

(y) Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.

(z) Applicants with insulin treated diabetes mellitus shall be assessed as unfit.

(aa) Applicants with non-insulin treated diabetes mellitus shall be assessed as unfit unless the condition is shown to be satisfactorily controlled by diet alone or by diet combined with oral anti-diabetic medication, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.

(ab) Applicants with diseases of the blood and/or the lymphatic system shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges. Sickle cell trait and other haemoglobinopathic traits are usually compatible with fit assessment.

(ac) Applicants with renal or genito-urinary disease shall be assessed as unfit unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.

(ad) Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.

(ae) Applicants with sequelae of disease of, or surgical procedures on, the kidneys or the genito-urinary tract, in particular obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

(af) Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.

(ag) Applicants with acquired immunodeficiency syndrome (AIDS) shall be assessed as unfit.

(ah) Applicants who are seropositive for human immunodeficiency (HIV) shall be assessed as unfit unless full investigation provides no evidence of clinical disease.

Note: Evaluation of applicants who are seropositive for human immunodeficiency virus (HIV) requires particular attention to their mental state, including the psychological effects of the diagnosis.

(ai) Applicants with gynaecological disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.

(aj) Applicants who are pregnant shall be assessed as unfit unless obstetrical

evaluation and continued medical supervision indicate a low-risk uncomplicated pregnancy.

(ak) For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with 2(jj), the fit assessment should be limited to the period from the end of the 12th week until the end of the 26th week of gestation.

(al) Following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her licence until she has undergone re-evaluation in accordance with best medical practice and it has been determined that she is able to safely exercise the privileges of her licence and ratings.

(am) The applicant shall not possess any abnormality of the bones, joints, muscles, tendons or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges. Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

(an) The applicant shall not possess any abnormality or disease of the ear or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(ao) There shall be:

- (i) no disturbance of the vestibular function;
- (ii) no significant dysfunction of the Eustachian tubes; and
- (iii) no unhealed perforation of the tympanic membranes.

(ap) A single dry perforation of the tympanic membrane need not render the applicant unfit.

(aq) There shall be:

- (i) no nasal obstruction; and
- (ii) no malformation nor any disease of the buccal cavity or upper respiratory tract; which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(ar) Applicants with stuttering and other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.

(3) **Visual requirements:** (a) The function of the eyes and their adnexae shall be normal; there shall be no active pathological condition, acute or chronic, nor an sequelae of

surgery or trauma of the eyes or their adnexae likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's licence and rating privileges;

(b) Distant visual acuity with or without correction shall be 6/12 or better in each eye separately, and binocular visual acuity shall be 6/9 or better; no limits apply to uncorrected visual acuity; when this standard of visual acuity can be obtained only with correcting lenses, the applicant may be assessed as fit provided that:

(i) Such correcting lenses are worn during the exercise of the privileges of the licence or rating applied for or held, and

(ii) in addition, a pair of a suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's licence;

(c) an applicant may use contact lenses to meet this requirement provided that:

(i) the lenses are monofocal and non-tinted;

(ii) the lenses are well tolerated; and

(iii) a pair of suitable correcting spectacles is kept readily available during the exercise of the licence privileges;

(d) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses; if spectacles are used, high-index lenses are needed to minimize peripheral field distortion;

(e) applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 shall be required to provide a full ophthalmic report prior to initial Medical Assessment and every five years thereafter;

(f) Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae which are likely to interfere with the safe exercise of their licence and rating privileges;

(g) The applicant shall have the ability to read while wearing the correcting lenses, if any, required by rule 53(3)(b), the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 cm. and if this requirement is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correction already prescribed in accordance with rule 53(3)(b); if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the licenses; when near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements;

(h) When near correction is required a second pair of near-correction spectacles shall be kept available for immediate use;

(i) The applicant shall be required to have normal fields of vision;

(j) The applicant shall be required to have normal binocular function;

(k) Reduced stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia need not be disqualifying.

(4) **Hearing requirements:** (a) Applicants who are unable to hear an average conversational voice in a quiet room, using both ears, at a distance of 2 m from the examiner and with the back turned to the examined, shall be assessed as unfit.

(b) When tested by pure-tone audiometry, an applicant with a hearing loss, in either ear separately, of more than 35 dB at any of the frequencies 500, 1000 or 2000 Hz, or more than 50 dB at 3000 Hz shall be assessed as unfit

(c) An applicant who does not meet the requirements in 4(a) or 4(b) should undergo further testing in accordance with Rule 52(4)(c).

54. Class 3 Medical Assessment: (1) Assessment, issue and renewal.- (a) An applicant for an air traffic Controller Licence shall undergo an initial medical examination for the issue of a Class 3 Medical Assessment;

(b) Except where otherwise stated in this rule, holders of an Air Traffic Controller Licence shall have their Class 3 Medical Assessments renewed at intervals not exceeding those specified in rule 51(3) of these Rules.

(c) When the Chairman is satisfied that the requirements of these Rules have been met, a Class 3 Medical Assessment shall be issued to the applicant.

(2) **Physical and mental requirements:** (a) The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable to perform duties safely;

(b) The applicant shall have no established medical history or clinical diagnosis of:

(i) an organic mental disorder;

(ii) a mental or behavioural disorder due psychoactive substances use; this includes dependence syndrome induced by alcohol or other psychoactive substances;

(iii) schizophrenia or a schizotypal or delusional disorder;

- (iv) a mood (affective) disorder;
- (iv) a neurotic, stress-related or somatoform disorder;
- (vi) a behavioural syndrome associated with physiological disturbances or physical factors;
- (vii) a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;
- (viii) mental retardation;
- (ix) a disorder of psychological development;
- (x) a behavioural or emotional disorder, with onset in childhood or adolescence;
or
- (xi) a mental disorder not otherwise specified; such as might render the applicant unable to safely exercise the privileges of the licence applied for or held.

Note: Mental and behavioural disorders are defined in accordance with the clinical descriptions and diagnostic guidelines of the World Health Organization as given in the International Statistical Classification of Diseases and Related Health Problems, 10th Edition – Classification of Mental and Behavioural Disorders, Who 1992. This document contains detailed descriptions of the diagnostic requirements which may be useful for their applicant to medical assessment.

- (c) The applicant shall have no established medical history or clinical diagnosis of any of the following:
 - (i) a progressive or non-progressive disease of the nervous system, the effects of which, are likely to interfere with the safe exercise of the applicant's licence and rating privileges;
 - (ii) epilepsy; or
 - (iii) any disturbance of consciousness without satisfactory medical explanation of cause.
- (d) The applicant shall not have suffered any head injury, the effects of which, are likely to interfere with the safe exercise of the applicant's licence and rating privileges.
- (e) The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(f) An applicant who has undergone coronary by-pass grafting or angioplasty (with or without stenting) or other cardiac intervention or who has a history of myocardial infarction or who suffers from any other potentially incapacitating cardiac condition shall be assessed as unfit unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(g) An applicant with an abnormal cardiac rhythm shall be assessed as unfit unless the cardiac arrhythmia has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(h) Electrocardiography shall form part of the heart examination for the first issue of a Medical Assessment.

(i) Electrocardiography shall be included in re-examinations of applicants after the age of 50 no less frequently than every two years.

Note: The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further through cardiovascular investigation.

(j) The systolic and diastolic blood pressures shall be within normal limits.

(k) The use of drugs for control of high blood pressure is disqualifying except for those drugs, the use of which, is compatible with the safe exercise of the applicant's licence privileges.

(l) There shall be no significant functional nor structural abnormality of the circulatory system.

(m) There shall be no disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleurae likely to result in incapacitating symptoms.

Note.- Chest radiography is usually not necessary but may be indicated in cases where asymptomatic pulmonary disease can be expected.

(n) Applicants with chronic obstructive pulmonary disease shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

(o) Applicant with asthma causing significant symptoms or likely to cause incapacitating symptoms shall be assessed as unfit.

(p) The use of drugs for control of asthma shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.

(q) Applicants with active pulmonary tuberculosis shall be assessed as unfit

(r) Applicant with quiescent or healed lesions, known to be tuberculous or presumably tuberculous in origin, may be assessed as fit.

(s) Applicants with significant impairment of the function of the gastrointestinal tract or its adnexae, shall be assessed as unfit.

(t) Applicants with sequelae of disease of or surgical intervention on any part of the digestive tract or its adnexa, likely to cause incapacitation, in particular any obstructions due to stricture or compression, shall be assessed as unfit.

(u) An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its adnexa, with a total or partial excision or a diversion of any of these organs should be assessed as unfit until such time as the medical assessor, having access to the details of the operation concerned, considers of the operation are not likely to cause incapacitation.

(v) Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.

(w) Applicants with insulin treated diabetes mellitus shall be assessed as unfit.

(x) Applicants with non-insulin treated diabetes shall be assessed as unfit unless the condition is shown to be satisfactorily controlled by diet alone or by diet combined with oral anti-diabetic medication, the use of which is compatible with the safe exercise of the applicant's licence and rating privileges.

(y) Applicants with diseases of the blood and/or the lymphatic system shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.

(z) Applicants with renal or genito-urinary disease shall be assessed as unfit unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their licence and rating privileges.

(aa) Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.

(ab) Applicants with sequelae of disease of, or surgical procedures on the kidneys or the genito-urinary tract, in particular obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to

interfere with the safe exercise of the applicant's licence or rating privileges.

(ac) Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.

(ad) Applicants with acquired immunodeficiency syndrome (AIDS) shall be assessed as unfit.

(ae) Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless full investigation provides no evidence of clinical disease.

Note: Evaluation of applicants who are seropositive for human immunodeficiency virus (HIV) requires particular attention to their mental state, including the psychological effects of the diagnosis.

(af) Applicants with gynaecological disorders that are likely to interfere with the safe exercise of their licence and rating privileges shall be assessed as unfit.

(ag) Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk complicated pregnancy.

(ah) During the gestational period, precautions should be taken for the timely relief of an air traffic controller in the event of early onset of labour or other complications.

(ai) For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with 3(gg), the fit assessment should be limited to the period until the end of the 34th week of gestation.

(aj) Following confinement or termination of pregnancy the applicant shall not be permitted to exercise the privileges of her licence until she has undergone re-evaluation in accordance with best medical practice and it has been determined that she is able to safely exercise the privileges of her licence and ratings.

(ak) The applicant shall not possess any abnormality of the bones, joints, muscles or tendons or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges. Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

(al) The applicant shall not possess any abnormality or disease of the ear or related structures which is likely to interfere with the safe exercise of the applicant's licence and rating privileges.

(am) There shall be no malformation nor any disease of the nose, buccal cavity or upper respiratory tract which is likely to interfere with the safe exercise of the

applicant's licence and rating privileges.

(an) Applicants with stuttering or other speech defects sufficiently severe to cause impairment of speech communications shall be assessed as unfit.

(3) **Visual requirements:** (a) The function of the eyes and their adnexae shall be normal; there shall be no active pathological condition, acute or chronic, nor any sequelae of surgery or trauma of the eyes or their adnexae likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's licence and rating privileges;

(b) Distant visual acuity with or without correction shall be 6/9 or better in each eye separately, and binocular visual acuity shall be 6/6 or better; no limits apply to uncorrected visual acuity, and where this standard of visual acuity can be obtained only with correcting lenses, the applicant may be assessed as fit provided that:

(i) such correcting lenses are worn during the exercise of the privileges of the licence or rating applied for or held; and

(ii) in addition, a pair of suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's licence.

(c) Applicants may use contact lenses to meet this requirement provided that:

(i) the lenses are monofocal and non-tinted;

(ii) the lenses are well tolerated; and

(iii) a pair of suitable correcting spectacles is kept readily available during the exercise of the licence privileges.

(d) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses; if spectacles are used, high-index lenses are needed to minimize peripheral field distortion.

(e) Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60, shall be required to provide a full ophthalmic report prior to initial Medical Assessment and every five years thereafter.

(f) Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae, which are likely to interfere with the safe exercise of their licence and rating privileges.

(g) The applicant shall have the ability to read while wearing the correcting lenses, if any, required by rule 54(3)(b), the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 cm and the ability to read the N14 chart or its equivalent at a distance of 100 cm; if this requirement is met only by the use of near

correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correction already prescribed in accordance with rule 54(3)(b), and if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privileges of the licences; when near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

(h) When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.

(i) The applicant shall be required to have normal fields of vision.

(j) The applicant shall be required to have normal binocular function.

(k) Reduce stereopsis, abnormal convergence not interfering with near vision, and acular misalignment where fusional reserves are sufficient to prevent asthenopia and diplopia need not be disqualifying.

(4) Hearing requirements: (a) The applicant, when tested on a pure-tone audiometer shall not have a hearing loss, in either ear separately, of more than 35 dB at any of the frequencies 500, 1000 or 2000 Hz, or more than 50 dB at 3000 Hz.

(b) An applicant with a hearing loss greater than the above may be declared fit provided that the applicant has normal hearing performance against a background noise that re-procedures or simulates that experienced in a typical air traffic control working environment.

Note 1: The frequency composition of the background noise is defined only to the extent that the frequency range 600 to 4800 Hz (speed frequency range) is adequately represented.

Note 2: In the speech material for discrimination testing, both aviation relevant phrases and phonetically balanced words are normally used.

(c) Alternatively, a practical hearing test conducted in an air traffic control environment representative of the one for which the applicant's licence and rating are valid may used.

55. Checks, Tests and Examinations- For the purpose of these Rules, Chairman may-

(a) conduct examinations specified in these Rules, appoint invigilators and lay down the procedure for conducting the examinations;

(b) appoint examiner for carrying out flying tests and technical examinations; and

(c) determine the manner in which the proficiency checks shall be carried out and may approve check pilots and examiners for this purpose.

56. Fees and other charges relating to licences.- The fees for the issue, renewal, validation or revalidation of Licences and Rating or technical examination and official medical examination in connection therewith or the issue of duplicate licence and rating shall be as specified by the Chairman through Air Navigation Orders.

57. Logbooks, logging procedure and crediting of flight time: (1) Every crew member under these rules shall maintain a personal logbook in which all flight times shall be logged in the form and manner specified by the Chairman.

(2) All entries in logbooks shall be made in ink.

(3) Unless otherwise specified, logbooks shall be preserved.

(4) Every flight crewmember shall certify the accuracy of the entries in his logbook with respect of flight time at least at the end of each calendar month. The pilot-in-command, during dual instruction shall certify entries with respect to flight time. At the end of each quarter in a year, that is, at the end of March, June, September and December; logbooks shall be certified for correctness of entries therein, as:

(a) in the case of commercial pilots and other crew members by the competent authorities of the operator concerned as approved by the Chairman;

(b) in the case of members of the flying schools, by the Chief Flying Instructor; and

(c) in the case of all other persons, by such officers of the Civil Aviation Authority as may be designated by the Chairman.

(5) A student pilot or the holder of a pilot licence shall be entitled to credited in full with all solo, dual instruction and pilot-in-command flight time towards the total flight time required for the initial issue of a pilot licence or the issue of a higher grade of pilot licence.

(6) The holder of a pilot licence, when acting as co-pilot at a pilot station of an aircraft certificated for operation by a single pilot but required by the Chairman to be operated with a co-pilot, shall be entitled to be credited with 50 per cent of the co-pilot flight time towards the total flight time required for a higher grade of pilot licence. The Chairman may authorize that flight time be credited in full towards the total flight time required if the aircraft is equipped to be operated by a co-pilot and the aircraft is operated in a multi-crew operation.

(7) **Acting as a Co-pilot.** (a) The holder of a pilot licence, when acting as co-pilot at a pilot station of an aircraft certificated to be operated with a co-pilot, shall be entitled to be credited in full with this flight time towards the total flight time required for a higher grade of pilot licence.

(b) The holder of a pilot licence, when acting as pilot-in-command under supervision, shall be entitled to be credited in full with this flight time towards the total flight time

required for a higher grade of pilot licence.

(8) A pilot who acts as Examiner or Check Pilot may log the flight time as pilot-in-command during which he so acts, provided he is entitled and authorised to fly as a pilot-in-command of that type of aircraft by virtue of his ratings and privileges.

(9) A Flight Navigator shall log the flight time during which he is engaged in actual navigational duties. Actual navigational duties under supervision of a licensed flight navigator shall be logged as a flight navigator with the indication "under supervision" in the remarks column.

(10) A Flight Engineer shall log the flight time during which he is engaged in actual flight engineer's duties. Actual flight engineer's duties under supervision of a licensed flight engineer shall be logged as a flight engineer with indication "under supervision" in the remarks column.

57A. Specifications for Personnel Licences. Personnel licences issued by a Contracting State in accordance with the relevant provisions of this Annex shall conform to the following specifications:

(a) The authority having issued a licence shall ensure that other States are able to easily determine the licence privileges and validity of ratings. The following details shall appear on the licence:

- (i) Name of State (in bold type);
- (ii) Title of licence (in very bold type);
- (iii) Serial number of the licence, in Arabic numerals, given by the authority issuing the licence;
- (iv) Name of holder in full (in Roman alphabet also if script of national language is other than Roman);
- (v) Date of birth;
- (vi) Address of holder if desired by the State;
- (vii) Nationality of holder;
- (viii) Signature of holder;
- (ix) Authority and, where necessary, conditions under which the licence is issued;
- (x) Certification concerning validity and authorization for holder to

exercise privileges appropriate to licence;

(xi) Signature of officer issuing the licence and the date of such issue;

(xii) Seal or stamp of authority issuing the licence;

(xiii) Ratings, e.g. category, class, type of aircraft, airframe, aerodrome control, etc.;

(xiv) Remarks, i.e. special endorsements relating to limitations and endorsements for privileges, including an endorsement of language proficiency, and other information required as applicable.

(xv) Any other details desired by the Chairman.

(b) First quality paper or other suitable material, including plastic cards, shall be used and the items mentioned in sub-rule (a) of rule 57A shown clearly thereon.

(c) Item headings on the licence shall be uniformly numbered in roman numerals as indicated in sub-rule (a) of this rule, so that on any licence the number will, under any arrangement, refer to the same item heading.