

CURAÇAO CIVIL AVIATION REGULATIONS

PART 2 — PERSONNEL LICENSING

CONTENTS

PART 2—PERSONNEL LICENSING	8
2.1 General	8
2.1.1.1 Applicability	8
2.1.1.2 Definitions	8
2.1.1.3 Abbreviations	8
2.2 General Requirements for Licences, Ratings, Authorisations, Certificates, Endorsements and Designations	9
2.2.1 Issue, Renewal, and Re-Issue of Licences, Ratings, Authorisations, Designations, and Certificates	9
2.2.1.1 Licences	9
2.2.1.2 Ratings	10
2.2.1.3 Authorisations	12
2.2.1.4 Endorsements	12
2.2.1.5 Certificates	12
2.2.1.6 Designation of Representatives of the Director General of Civil Aviation	12
2.2.1.7 Validity of Licences, Ratings, Authorisations and Certificates	13
2.2.2 Language Proficiency	14
2.2.3 Credit for Military Competency	14
2.2.3.1 Credit for Military Pilots	14
2.2.3.2 Credit for Military Parachute Riggers	15
2.2.4 Validation and Conversion of Foreign Licences, Ratings, Authorisations and Certificates	15
2.2.4.1 Validation of Flightcrew Licences	15
2.2.4.2 Conversion of Flightcrew Licences	17
2.2.4.3 Validation of Flightcrew Licences by Reliance upon the Licensing System of Another Contracting State	18
2.2.4.4 Conversion of Flightcrew Licences by Reliance upon the Licensing System of Another Contracting State	19
2.2.4.5 Validation in Case of Leased, Chartered or Interchanged Aircraft	20
2.2.4.6 Temporary Validation of Non-Curaçao Pilot Licences Held by Manufacturer Pilots	20
2.2.4.7 Validation of Aircraft Maintenance TECHNICIAN Licences	21
2.2.4.8 RESERVED	22
2.2.4.9 Validation of AMT Licences by Reliance upon the Licensing System of Another Contracting State	22
2.2.4.10 RESERVED	22
2.2.5 Training and Testing Requirements	22
2.2.5.1 Documentation of Training and Aeronautical Experience	22
2.2.5.2 Training Conducted in an Approved Training Organisation	23
2.2.5.3 Use of Flight Simulation Training Devices	23
2.2.5.4 Knowledge and Skill Tests and Checks: Time, Place, Designated Persons and Format	23
2.2.5.5 Knowledge and Skill Tests and Checks—Prerequisites, Passing Grades and Retesting After Failure	24
2.2.5.6 Reliance on Training and Testing in Another Contracting State	25
2.2.6 Instructor Requirements—General	25
2.2.7 Designated Examiners	26
2.2.8 Specifications and Format of the Licence	26

2.2.9	Suspension or Revocation of a Licence, Rating, Authorisation or Certificate	26
2.2.9.1	Suspension of a Licence, Rating Authorisation or Validation Certificate	27
2.2.9.2	Suspension of a Medical Certificate.....	27
2.2.9.3	Revocation of Licences, Ratings Authorisations or Certificates.....	28
2.3	Pilot Licences, Categories, Ratings, Authorisations, Endorsements, Instructors for Pilot Licensing, and Designated Pilot Examiners.....	28
2.3.1	General.....	28
2.3.1.1	Applicability.....	28
2.3.1.2	General Rule Concerning Licences, Ratings and Authorisations	29
2.3.1.3	Authority to Act as a Flight Crewmember	29
2.3.1.4	Crediting of Flight Time.....	29
2.3.1.5	Limitation of Privileges of Pilots who have Attained Their 60th Birthday and Curtailment of Privileges of Pilots who have Attained Their 65th Birthday.....	29
2.3.1.6	Recent Experience and Proficiency Requirements Non-Commercial Air Transport Operations	30
2.3.1.7	Recording of Flight Time.....	31
2.3.2	Category, Class and Type Ratings, Category II/III Authorisations, and Endorsements.....	32
2.3.2.1	General.....	32
2.3.2.2	Category Ratings.....	32
2.3.2.3	Class Ratings.....	33
2.3.2.4	Type Ratings.....	34
2.3.2.5	Category II and III Authorisation	35
2.3.2.6	Complex Aeroplane Endorsement.....	36
2.3.2.7	High Performance Aeroplane Endorsement	36
2.3.2.8	High Altitude Aircraft Endorsement.....	36
2.3.2.9	Night Vision Goggles Endorsement.....	37
2.3.3	Student Pilots	38
2.3.3.1	General Requirements.....	38
2.3.3.2	Student Pilot Manoeuvres and Procedures for Pre-Solo Flight Training—Aeroplane Category	38
2.3.3.3	Student Pilot Manoeuvres and Procedures for Pre-Solo Flight Training—Helicopter Category	39
2.3.3.4	Student Pilot Manoeuvres and Procedures for Pre-Solo Flight Training—Powered-Lift Category	39
2.3.3.5	Student Pilot Manoeuvres and Procedures for Pre-Solo Flight Training—Airship Category	39
2.3.3.6	RESERVED	39
2.3.3.7	RESERVED	39
2.3.4	Private Pilot Licence	39
2.3.4.1	General Requirements.....	39
2.3.4.2	Experience, Flight Instruction and Skill Test for the PPL – Aeroplane Category	41
2.3.4.3	Experience, Flight Instruction and Skill Test for the PPL—Helicopter Category	42
2.3.4.4	Experience, Flight Instruction and Skill Test for the PPL – Powered-Lift Category.....	44
2.3.4.5	Experience, Flight Instruction and Skill Test for the PPL—Airship Category	44
2.3.4.6	Reserved	45
2.3.4.7	reserved.....	45
2.3.5	Commercial Pilot Licence	45

2.3.5.1	General Requirements.....	45
2.3.5.2	Experience, Flight Instruction and Skill Test for the CPL—Aeroplane Category	48
2.3.5.3	Experience, Flight Instruction and Skill Test for the CPL—Helicopter Category.....	49
2.3.5.4	Experience, Flight Instruction and Skill Test for the CPL—Powered-Lift Category.....	51
2.3.5.5	Experience, Flight Instruction and Skill Test for the CPL – Airship Category	52
2.3.5.6	RESERVED	53
2.3.5.7	rESERVED	53
2.3.6	Multi-Crew Pilot Licence—Aeroplane	53
2.3.6.1	General Requirements.....	53
2.3.6.2	Experience, Flight Instruction, and Skill Test for the Multi-crew Pilot Licence— Aeroplane Category	54
2.3.7	Airline Transport Pilot Licence	55
2.3.7.1	General Requirements.....	55
2.3.7.2	Experience, Flight Instruction and Skill Test for the ATPL—Aeroplane Category.....	58
2.3.7.3	Experience, Flight Instruction and Skill Test for the ATPL—Helicopter Category.....	59
2.3.7.4	Experience, Flight Instruction and Skill Test for the ATPL—Powered-Lift Category.....	59
2.3.8	Instrument Rating	60
2.3.8.1	General Requirements.....	60
2.3.8.2	Experience, Flight Instruction, Skill Test and Proficiency Check for the IR.....	62
2.3.9	Instructors for Pilot Licensing.....	63
2.3.9.1	General Requirements.....	63
2.3.9.2	Flight Instructor Licence Requirements, Skill Test and Proficiency Check	64
2.3.9.3	Instructor Authorisation for Flight Simulation Training	68
2.3.9.4	Ground Instructor LICENCE	68
2.3.10	Designated Pilot Examiners.....	69
2.3.10.1	Requirements and Skill Test.....	69
2.3.10.2	Experience Requirements for Private Pilot Examiner (PPE).....	70
2.3.10.3	Experience Requirements for Commercial and Instrument Rating Pilot Examiner (CIRE) ...	71
2.3.10.4	Experience Requirements for Commercial Pilot Examiners (CE)	73
2.3.10.5	Experience Requirements for Airline Transport Pilot (ATPL) Examiners (ATPE)	73
2.3.10.6	Experience Requirements for Flight Instructor Examiner (FIE).....	75
2.3.11	Remote Pilot Licence (RPL) -Reserved.....	75
2.4	RESERVED.....	75
2.5	RESERVED.....	75
2.6	Aviation Maintenance Licensing, Instructors and Designated Examiners	75
2.6.2.15	Conversion of AMT Licences by Reliance upon the Licensing System of Another Contracting State	91
2.6.3	Designated Aviation Mechanic Examiners.....	94
2.6.3.1	General Requirements.....	94
2.6.3.2	Knowledge	95
2.6.3.3	Skill	95
2.6.3.4	Currency	95
2.6.3.5	Privileges	95
2.6.3.6	Validity	96
2.6.3.7	Renewal.....	96
2.7	Air Traffic Controller Licences, Categories and Ratings	96

2.7.1	Applicability.....	96
2.7.2	General.....	96
2.7.3	Air Traffic Controller Licence and Ratings	96
2.7.3.1	Student Air Traffic Controller.....	96
2.7.3.2	Air Traffic Controller Licence.....	96
2.7.3.3	Air Traffic Controller Ratings.....	97
2.8	Flight DISPATCHER Licence, Instructors, and Designated Examiners.....	103
2.8.1	Applicability.....	103
2.8.2	General.....	103
2.8.3	Flight DISPATCHER Licence	104
2.8.3.1	General Requirements.....	104
2.8.3.2	Skill Test for the Flight DISPATCHER Licence	106
2.8.4	Instructors for Flight DISPATCHER.....	106
2.8.4.1	Requirements for Flight DISPATCHER Instructor Licence	106
2.8.5	Designated Examiners for Flight DISPATCHER.....	106
2.8.5.1	General Requirements.....	106
2.8.5.2	Knowledge	107
2.8.5.3	Skill	107
2.8.5.4	Currency	107
2.8.5.5	Privileges	108
2.8.5.6	Validity	108
2.8.5.7	Renewal.....	108
2.9	Aeronautical Meteorological Personnel	108
2.9.1	RESERVED	108
2.9.2	RESERVED	108
2.9.3	RESERVED	108
2.9.4	Aeronautical Meteorological Personnel	108
2.10	Parachute Rigger Licences, Instructors and Designated Parachute Rigger Examiners	108
2.10.1.1	Applicability.....	108
2.10.1.2	Eligibility Requirements: General.....	109
2.10.1.3	Licence Required.....	109
2.10.1.4	Senior Parachute Rigger Licence—Experience, Knowledge, and Skill Requirements	109
2.10.1.5	Master Parachute Rigger Licence—Experience, Knowledge, and Skill Requirements.....	109
2.10.1.6	Type Ratings.....	110
2.10.1.7	Additional Type Ratings: Requirements.....	110
2.10.1.8	Privileges	110
2.10.1.9	Facilities and Equipment.....	111
2.10.1.10	Performance Standards and Recency Requirements.....	111
2.10.1.11	Records	111
2.10.1.12	Seal.....	112
2.10.1.13	Duration of Parachute Rigger Licence	112
2.10.1.14	Display of Licence.....	112
2.10.2	Parachute Rigger Instructor Requirements.....	112
2.10.2.1	Requirements for a Parachute Rigger Instructor Licence	112
2.10.3	Designated Parachute Rigger Examiner Requirement	113
2.10.3.1	General Requirements.....	113

2.10.3.2	Knowledge	113
2.10.3.3	Skill	114
2.10.3.4	Currency	114
2.10.3.5	Privileges	114
2.10.3.6	Validity	114
2.10.3.7	Renewal	114
2.11	Medical Provisions for Licensing	115
2.11.1.1	Applicability	115
2.11.1.2	Medical Fitness	115
2.11.1.3	CIVIL Aviation Medical Examiners (CAME's)	115
2.11.1.4	CIVIL Aviation Medical Examinations	116
2.11.1.5	Special Circumstances	116
2.11.1.6	Decrease of Medical Fitness	116
2.11.1.7	Use of Psychoactive Substances	116
2.11.1.8	Medical Certificate	117
2.11.1.9	Medical Assessor	118
2.11.2	Medical Requirements	118
2.11.2.1	General	118
2.11.2.2	Physical and Mental Requirements	118
2.11.2.3	Visual Acuity Test Requirements	119
2.11.2.4	Colour Perception Requirements	119
2.11.2.5	Hearing Test Requirements	119
2.11.2.6	Class 1 Medical Certificate	120
2.11.2.7	Class 2 Medical Certificate	125
2.11.2.8	Class 3 Medical Certificate	130
PART 2 —	IMPLEMENTING STANDARDS	139
IS 2.2.2	Language Proficiency	139
IS 2.2.3.1	Credit for Military Pilots	141
IS 2.2.4.3	Procedures for Validation of Flightcrew Licences by Reliance upon the Licensing System of Another Contracting State	143
IS 2.2.4.4	Procedures for Conversion of Flightcrew Licences by Reliance upon the Licensing System of Another Contracting State	143
IS 2.2.4.9	Procedures for Validation of AMT Licences by Reliance upon the Licensing System of Another Contracting State	144
IS 2.2.4.10	Procedures for Conversion of AMT Licences by Reliance upon the Licensing System of Another Contracting State	144
IS 2.2.8	Specifications and Format of the Licence	145
IS 2.3.1.7	Recording of Flight Time	146
IS 2.3.2.5	Category II and III Authorisation	147
IS 2.3.3	Student Pilots	152
IS 2.3.3.2	Student Pilots: Manoeuvres and Procedures for Pre-Solo Flight Training— Aeroplane Category	152
IS 2.3.3.3	Student Pilots: Manoeuvres and Procedures for Pre-Solo Flight Training— Helicopter Category	152
IS 2.3.3.4	Student Pilots: Manoeuvres and Procedures for Pre-Solo Flight Training— Powered-Lift Category	153
IS 2.3.3.5	Student Pilots: Manoeuvres and Procedures for Pre-Solo Flight Training— Airship Category	154

IS 2.3.3.6	RESERVED	154
IS 2.3.3.7	RESERVED	154
IS 2.3.4	Private Pilot Licence.....	154
IS 2.3.4.2	PPL Skill Test—Aeroplane Category	154
IS 2.3.4.3	PPL Skill Test—Helicopter Category	157
IS 2.3.4.4	PPL Skill Test—Powered-Lift Category	159
IS 2.3.4.5	PPL Skill Test—Airship Category	159
IS 2.3.4.6	RESERVED	161
IS 2.3.4.7	rESERVED	161
IS 2.3.5.2	CPL Skill Test—Aeroplane Category	161
IS 2.3.5.3	CPL Skill Test—Helicopter Category	163
IS 2.3.5.4	CPL Skill Test—Powered-Lift Category	165
IS 2.3.5.5	CPL Skill Test—Airship Category	165
IS 2.3.5.6	RESERVED	167
IS 2.3.5.7	RESERVED	167
IS 2.3.6.2	Multi-crew Pilot Licence Skill Test – Aeroplane Category	167
IS 2.3.7.2	ATPL and Aircraft Type Rating Skill Test—Aeroplane Category	168
IS 2.3.7.3	ATPL and Aircraft Type Rating Skill Test—Helicopter Category	169
IS 2.3.7.4	ATPL and Aircraft Type Rating Skill Test—Powered-Lift Category	170
IS 2.3.8.2	Instrument Rating Skill Test and Proficiency Check	170
IS 2.3.9.2	Flight Instructor Skill Test and Proficiency Check	172
IS 2.3.10.1	Skill Test for Designated Pilot Examiners	183
IS 2.6.1.4	RESERVED This is obtainable at the Authority	184
IS 2.8.3.2	Skill Test for the Flight DISPATCHER Licence	298
IS 2.10.1.4	Senior Parachute Rigger Licence Skill Test.....	299
IS 2.10.1.5	Master Parachute Rigger Licence Skill Test	301
IS 2.10.1.6	Type Ratings—Parachute Rigger Licence Skill Test.....	303
IS 2.11.1.3	CIVIL Aviation Medical Examiners	303
IS 2.11.1.8	Medical Certificate	305

Part 2—Personnel Licensing

2.1 GENERAL

2.1.1.1 APPLICABILITY

- (a) Part 2 prescribes:
 - 1) The requirements for issuing renewal and re-issue of aviation personnel licences, ratings, authorisations and certificates;
 - 2) The conditions under which those licences, ratings, authorisations and certificates are necessary; and
 - 3) The privileges and limitations granted to the holders of those licences, ratings, authorisations and certificates.

2.1.1.2 DEFINITIONS

- (a) Definitions are contained in Part 1.

2.1.1.3 ABBREVIATIONS

- (a) The following abbreviations are used in Part 2:
 - (1) **A** – Aeroplane.
 - (2) **AIP** – Aeronautical Information Publication.
 - (3) **AMT** – Aviation Maintenance Technician.
 - (4) **ATCO** – Air Traffic Controller (Note: abbreviation ICAO A446).
 - (5) **AS** – Airship.
 - (6) **ATPL** – Airline Transport Pilot Licence.
 - (7) **B** – Balloon.
 - (8) **CAME** – Civil Aviation Medical Examiner.
 - (9) **CAT II** – Category II.
 - (10) **CAT III** – Category III.
 - (11) **CPL** – Commercial Pilot Licence.
 - (12) **CRM** – Crew Resource Management.
 - (13) **DFEE** – Designated Flight Engineer Examiner.
 - (14) **DFNE** – Designated Flight Navigator Examiner.
 - (15) **DFDE** – Designated Flight Dispatcher Examiner.
 - (16) **DME** – Designated Mechanic Examiner.
 - (17) **DPE** – Designated Pilot Examiner.
 - (18) **DPRE** – Designated Parachute Rigger Examiner.
 - (19) **FD** – Flight Dispatcher.
 - (20) **FE** – Flight Engineer.
 - (21) **FI** – Flight Instructor.
 - (22) **G** – Glider.
 - (23) **IA** – Inspection Authorisation.

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- (24) **IFR** – Instrument Flight Rules.
 - (25) **ILS** – Instrument Landing System.
 - (26) **H** – Helicopter.
 - (27) **ICAO** – International Civil Aviation Organisation.
 - (28) **MPA** – Multi-pilot Aeroplane.
 - (29) **MPH** – Multi-pilot Helicopter.
 - (30) **MPL** – Multi-crew Pilot Licence
 - (31) **NOTAM** – Notice to airmen.
 - (32) **PIC** – Pilot-in-command.
 - (33) **PL** – Powered-lift.
 - (34) **PPL** – Private Pilot Licence.
 - (35) **RP** – Remote Pilot.
 - (36) **RPA** – Remotely Piloted Aircraft.
 - (37) **RT** – Radiotelephony.
 - (38) **SPA** – Single-pilot Aeroplane.
 - (39) **SPH** – Single-pilot Helicopter.
 - (40) **STS** – Skill test standard
 - (41) **VFR** – Visual Flight Rules.

2.2 GENERAL REQUIREMENTS FOR LICENCES, RATINGS, AUTHORISATIONS, CERTIFICATES, ENDORSEMENTS AND DESIGNATIONS

2.2.1 ISSUE, RENEWAL, AND RE-ISSUE OF LICENCES, RATINGS, AUTHORISATIONS, DESIGNATIONS, AND CERTIFICATES

2.2.1.1 LICENCES

- (a) The Authority may issue the following licences under this Part to an applicant who satisfactorily accomplishes the requirements in this Part for the licence sought:
 - (1) Pilot licences:
 - (i) Private Pilot Licence – aeroplane, helicopter, airship or powered-lift categories;
 - (ii) Commercial Pilot Licence—aeroplane, helicopter, airship or powered-lift categories;
 - (iii) Multi-crew pilot licence – aeroplane
 - (iv) Airline Transport Pilot Licence (ATPL) – aeroplane, helicopter or powered-lift categories;
 - (2) Flight Dispatcher Licence.
 - (3) Flight instructor licence.
 - (4) Ground instructor licence.
 - (5) Aircraft maintenance technician licence.
 - (6) Aviation repairman specialist licence.
 - (7) Parachute rigger licence.
 - (8) Air traffic controller licence.

- (9) Aeronautical station operator licence.
- (10) Flight radiotelephone operator.

Notes: Regarding the Flight radiotelephone operator licence:

- (i) Where the knowledge and skill of an applicant have been established as satisfactory in respect of the certification requirements for the radiotelephone operator's restricted certificate specified in the general radio regulations annexed to the International Telecommunication Convention and the applicant has met the requirements that are pertinent to the operation of the radiotelephone on board an aircraft, the Authority may endorse a licence already held by the applicant or issue a separate licence as appropriate.
- (ii) Skill and knowledge requirements on radiotelephony procedures and phraseology have been developed as an integral part of all pilot aeroplane and helicopter licences.

2.2.1.2 RATINGS

- (a) The Authority may issue the following ratings to place on a pilot licence or flight instructor licence when an applicant satisfactorily accomplishes the requirements in this Part for the rating sought:
 - (1) Category ratings in the following aircraft:
 - (i) Aeroplane.
 - (ii) Helicopter.
 - (iii) Airship.
 - (iv) Powered lift.
 - (2) Class ratings in the following aircraft:
 - (i) Single-engine land – aeroplane.
 - (ii) Single-engine sea – aeroplane.
 - (iii) Multi-engine land – aeroplane.
 - (iv) Multi-engine sea- aeroplane.
 - (v) A class rating may be issued for those helicopters certificated for single-pilot operations and which have comparable handling, performance and other characteristics.
 - (vi) Any rating considered necessary by the Authority.

Note: A class rating or endorsement for High Performance Aeroplanes (HPA) requires additional knowledge, if the applicant has not completed the ATPL (A) knowledge requirements.

- (3) Type ratings in the following aircraft:
 - (i) Each type of aircraft certificated for operation with a minimum crew of at least two pilots.
 - (ii) Each type of helicopter certificated for single-pilot except where a class rating has been established under (a)(2)(v).
 - (iii) Any aircraft considered necessary by the Authority

Note: A type rating for High Performance Aeroplanes (HPA) requires additional knowledge, if the applicant has not completed the ATPL (A) knowledge requirements.

- (4) Instrument ratings in the following aircraft:

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- (i) Instrument – Aeroplane.
 - (ii) Instrument – Helicopter.
 - (iii) Instrument – Powered lift.

Note: The instrument rating is included in the CPL-Airship and the ATPL-Aeroplane and Powered-lift.

- (5) Flight Instructor ratings:
 - (i) The appropriate aircraft category, class, instrument and/or type rating according to the instruction to be taught.
- (b) The Authority may issue the following ratings to place on a ground instructor's licence when an applicant satisfactorily accomplished the requirements of this Part for the rating sought:
 - (1) Basic.
 - (2) Advanced.
 - (3) Instrument.
- (c) The Authority may issue the following ratings to place on a flight engineer's licence when an applicant satisfactorily accomplishes the requirements in this Part for the rating sought:
 - (1) Reciprocating engine powered.
 - (2) Turbopropeller powered.
 - (3) Turbojet powered.
- (d) The Authority may issue the following ratings to place on an air traffic controller licence when an applicant satisfactorily accomplishes the requirements in this Part for the rating sought:
 - (1) Aerodrome control rating.
 - (2) Approach control rating.
 - (3) Approach radar control rating.
 - (4) Approach precision radar control rating.
 - (5) Area control rating.
 - (6) Area radar control rating.
- (e) The Authority may issue the following licence categories to place on an aircraft maintenance technician licence when an applicant satisfactorily accomplishes the requirements in this Part for the rating sought in accordance with 2.6.1.2.
- (g) The Authority may issue ratings as appropriate to place on an aviation repairman specialist licence.
- (h) The Authority may issue the following ratings to place on a parachute rigger's licence when an applicant satisfactorily accomplished the requirements of this Part for the rating sought:
 - (1) Seat.
 - (2) Back.
 - (3) Chest.
 - (4) Lap.

2.2.1.3 AUTHORISATIONS

- (a) The Authority may issue the following authorisations when an applicant satisfactorily accomplishes the requirements in this Part for the authorisation sought:
 - (1) Student pilot authorization.
 - (2) Instructor authorisation for training in a flight simulation training device.
- (b) The Authority may issue the following authorisations to place on a pilot licence when an applicant satisfactorily accomplishes the requirements in this Part for the authorisation sought:
 - (1) Category II pilot authorisation.
 - (2) Category III pilot authorisation.
- (c) The Authority may issue the following authorisation to place on an AMT licence when an applicant satisfactorily accomplished the requirements in this Part for the authorisation sought:
 - (1) Inspection authorisation.

2.2.1.4 ENDORSEMENTS

- (a) A pilot may receive the following endorsements from an authorised instructor when he/she satisfactorily accomplished the required training in this Part:
 - (1) Complex aeroplane endorsement.
 - (2) High performance aeroplane endorsement.
 - (3) High altitude aircraft endorsement.
 - (4) Night vision goggles endorsement.

2.2.1.5 CERTIFICATES

- (a) The Authority may issue the following medical certificates when an applicant satisfactorily accomplishes the requirements in this Part for the medical certificate sought:
 - (1) Medical certificate Class 1 for CPL and ATPL licences, flight instructor licences and DPEs;
 - (2) Medical certificate Class 2 for student pilot authorisation, PPL, Flight Engineer, and Flight Navigator licences;
 - (3) Medical certificate Class 3 for Air traffic controller licence.
- (b) The Authority may issue the following certificates to pilots, flight engineers and flight navigators holding a licence from another ICAO Contracting State.
 - (1) Validation certificates.
- (c) The Authority may issue certificates of designation to representatives of the Director General of Aviation as identified in 2.2.1.6 below.

2.2.1.6 DESIGNATION OF REPRESENTATIVES OF THE DIRECTOR GENERAL OF CIVIL AVIATION

- (a) The Authority may issue the following designations to private persons to act on behalf of the Director General of Civil Aviation, as specified in this Part:
 - (1) DPE;
 - (2) DFEE;

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- (3) DFNE;
 - (4) DFDE;
 - (5) DME;
 - (6) DPRE;
 - (7) DCAME; or
 - (8) Other designees as may be determined by the Authority.

2.2.1.7 VALIDITY OF LICENCES, RATINGS, AUTHORISATIONS AND CERTIFICATES

- (a) The validity period of the licences, ratings, authorisations, designations, certificates of validation and medical certificates and the renewal/re-issue conditions are indicated in the applicable requirements of Part 2.
- (b) The issue, renewal and re-issue of licences, ratings, authorisations, designations and certificates will be performed by the Authority.
 - (1) Renewal of ratings and category II/III pilot authorisations may be performed by the Examiner, when delegated by the Authority.
 - (2) Renewal of medical certificates may be performed by the CAME, when delegated by Authority.
- (c) Application for the issue, renewal and re-issue of licences, ratings, authorisations, designations or certificates by the Authority shall be done by submitting to the Authority a properly filled out form, which can be obtained from the Authority.
- (d) For renewal,
 - (1) Application must be made to the Authority at least 14 days before the expiry date.
 - (2) The licence, ratings, authorisations, certificates, including any required medical certificate, must be valid.
- (e) Privileges. The holder of a licence, certificate, authorisation or designation shall not exercise privileges other than those granted by the licence, certificate, authorisation or designation.
- (f) The privileges granted by a licence, or by related ratings, may not be exercised unless the holder maintains competency and meets the requirements for recent experience of this part.
- (g) Maintenance of competency shall be indicated in the airman's personal licence or record (e.g. logbook).
- (h) The maintenance of competency of flight crewmembers, engaged in commercial air transport operations, may be satisfactorily established by demonstration of skill during proficiency flight checks completed in accordance with Part 8.
- (i) Medical fitness. Applicants for the following licences and authorisations shall hold a current and appropriate medical certificate issued under this part in order for their licence or authorisation to be valid:
 - 1) Student pilot authorisation.
 - (2) Pilot licence,
 - (3) Flight engineer licence.
 - (4) Flight navigator licence.
 - (5) Flight instructor licence.

- (6) Designated pilot examiner (DPE).
- (7) Designated flight engineer examiner.
- (8) Designated flight navigator examiner.
- (9) Air traffic controller licence.

2.2.2 LANGUAGE PROFICIENCY

- (a) Pilots, flight engineers, flight navigators, air traffic controllers and aeronautical station operators shall demonstrate the ability to speak and understand the language used for radio telephony communications in the English language.
- (b) The airmen identified in item (a) above shall demonstrate the ability to speak and understand the language used for radiotelephony communications in the English language to least the Operational Level (Level 4) with the aim to speak at the Expert Level (Level 6) as specified in the language proficiency requirements in IS 2.2.2.
- (c) The language proficiency of airmen identified in item (a) shall be formally evaluated at intervals in accordance with an individual's demonstrated proficiency level as follows:
 - (1) Those demonstrating language proficiency at the Operational Level (Level 4) shall be evaluated at intervals not greater than 3 years;
 - (2) Those demonstrating language proficiency at the Extended Level (Level 5) shall be evaluated at intervals not greater than 6 years; and
 - (3) Those demonstrating language proficiency at the Expert Level (Level 6) shall be exempt from further language evaluation.
- (d) Implementing Standard IS 2.2.2 contains the detailed requirements for language proficiency.

2.2.3 CREDIT FOR MILITARY COMPETENCY

2.2.3.1 CREDIT FOR MILITARY PILOTS

- (a) Pilot licences. Except for a rated military pilot or former military pilot who has been removed from flying status for lack of proficiency, or because of disciplinary action involving aircraft operations, a rated military pilot or former rated military pilot who meets the requirements of IS 2.2.3.1 may apply on the basis of his or her military training, for:
 - (1) A PPL, CPL or ATPL;
 - (2) A rating in the category and class of aircraft for which that military pilot is qualified;
 - (3) An instrument rating with the appropriate category rating for which that military pilot is qualified; and
 - (4) A type rating, if appropriate.
- (b) The testing required by a military pilot seeking a licence or rating is as follows:
 - (1) If the applicant has been on active flight status within the past 12 months of application, pass a knowledge test on:
 - (i) Air law;
 - (ii) Meteorology;

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- (iii) Operational procedures; and
 - (iv) Radiotelephony;
 - (2) If the applicant has not been on active flight status within the past 12 months of application, pass both a knowledge and skill test.

2.2.3.2 CREDIT FOR MILITARY PARACHUTE RIGGERS

- (a) The Authority shall validate an applicant's Senior Parachute Rigger licence that if he or she passes a knowledge test on the regulations of Subpart 2.10 and presents satisfactory documentary evidence that he or she is:
 - (1) Is a member or civilian employee of an armed force of the Kingdom of the Netherlands, is a civilian employee of a regular armed force of a foreign country, or has within the 12 months before he applies, been honourably discharged or released from any status covered by this paragraph;
 - (2) Is serving, or has served within the 12 months before application, as a parachute rigger for such an armed force; and
 - (3) Has the experience required by paragraph 2.10.1.4

2.2.4 VALIDATION AND CONVERSION OF FOREIGN LICENCES, RATINGS, AUTHORISATIONS AND CERTIFICATES

2.2.4.1 VALIDATION OF FLIGHTCREW LICENCES

- (a) General requirements for validation.
 - (1) A person who holds a current and valid pilot licence issued by another Contracting State in accordance with ICAO Annex 1 may apply for a validation of such licence for use on aircraft registered in Curaçao.
 - (2) The applicant for the validation certificate shall present to the Authority the foreign licence and evidence of the experience required by presenting the record (e.g. logbook).
 - (3) The applicant for the validation certificate shall present to the Authority evidence that he/she holds either a current medical certificate issued under Part 2 or a current medical certificate issued by the Contracting State that issued the applicant's licence.
 - (i) The Authority may allow the applicant to use his/her foreign medical certificate with the validation certificate provided that the medical certification requirements on which the foreign medical certificate was issued meet the requirements of Part 2, relevant to the licence held.
 - (4) The applicant for the validation certificate shall present to the Authority evidence of language proficiency in the English language as specified in 2.2.2 or shall demonstrate to the Authority the language proficiency skills as specified in 2.2.2.
 - (i) The validation shall be limited for use on Curaçao registered aircraft for use within Curaçao if the pilot is not proficient in the English language, as required by 2.2.2.
 - (5) Authority will verify the authenticity of the licence, ratings authorisations and the medical certificate with the state of licence issue prior to issuing the validation.
 - (6) The Authority will only validate ratings or authorisations on the foreign licence together with the validation of a licence
 - (7) The Authority may issue a validation certificate which will be valid for one year, provided the foreign licence, ratings or authorisations and the medical certificate remains valid.

Part 2 — Personnel Licensing

- (b) Validation certificate with PPL privileges.
- (1) In addition to the requirements in item (a) above, the applicant for the validation certificate with PPL privileges shall have a foreign licence with at least PPL privileges.
- (c) Validation certificate with PPL/IR, CPL, CPL/IR, MPL, ATPL, or FE privileges. In addition to the requirements in item (a) above, the applicant for a validation certificate for either a PPL/IR, CPL, CPL/IR, MPL, ATPL, or FE privileges, shall have the relevant foreign licence and meet the following requirements:
- (1) The applicant for the validation certificate shall demonstrate, to the satisfaction of the Authority and relevant to the licence to be validated, knowledge of Curaçao's:
- (i) Air Law;
 - (ii) Meteorology;
 - (iii) Operational procedures;
 - (iv) Radiotelephony; and
 - (v) Navigation.
- (2) The applicant for the validation certificate shall complete a skill test for the relevant licence and ratings that he or she wants to be validated relevant to the privileges of the licence held; and
- (3) Comply with the experience requirements set out in the table below:

Licence	Experience	Validation Privileges
ATPL(A)	> 1 500 hours as PIC in multi-pilot * certificated aeroplanes	Commercial air transport in multi-pilot aeroplanes as PIC
ATPL(PL)	>1500 hours as PIC in multi-pilot certificated powered-lift or 1500 hours in multi-pilot operations in a combination of powered-lift; aeroplane and helicopter aircraft as acceptable to the Authority	Commercial air transport in multi-pilot powered-lift as PIC
ATPL(H)	>1 000 hours as PIC on multi-pilot helicopters	Commercial air transport multi-pilot helicopters as PIC
ATPL(A) or CPL(A)/IR	> 500 hours as PIC or co-pilot on multi-pilot aeroplanes	Commercial air transport in multi-pilot aeroplanes as co-pilot
ATPL(PL) or CPL(PL)/IR	> 500 hours as PIC or co-pilot on multi-pilot powered-lift	Commercial air transport in multi-pilot powered-lift as co-pilot
ATPL(H) or CPL(H)/IR	> 500 hours as PIC or co-pilot on multi-pilot helicopters	Commercial air transport in multi-pilot helicopters as co-pilot
CPL(A)/IR	> 1 000 hours as PIC in commercial air transport since gaining an IR	Commercial air transport in single-pilot aeroplanes as PIC
CPL(H)/IR	> 1 000 hours as PIC in commercial air transport since gaining an IR	Commercial air transport in single-pilot helicopters as PIC
CPL(A)	> 700 hours in aeroplanes other than gliders, including 200 hours in the activity role for which validation is sought, and 50 hours in that role in the last 12 months	Activities in aeroplanes other than commercial air transport
CPL(H)	> 700 hours in helicopters including 200 hours in the activity role for which validation is sought, and 50 hours in	Activities in helicopters other than commercial air transport

Licence	Experience	Validation Privileges
	that role in the last 12 months	
CPL(PL)	>700 hours in powered-lift (or combination of powered-lift, aeroplane and helicopter as acceptable to the Authority) including 200 hours in the activity role for which validation is sought, and 50 hours in that role in the last 12 months	Activities in powered-lift other than commercial air transport
CPL(AS)	> 250 hours as PIC in commercial air transport including 50 hours in AS within the last 12 months	Commercial air transport in airships as PIC under IR and VFR conditions
MPL(A)	>250 as co-pilot of turbine-powered air transport aeroplanes certificated for operations with a minimum crew of at least two pilots operated in commercial air transport within the past 12 months	Commercial air transport in turbine - powered air transport aeroplanes certificated for operations with a minimum crew of at least two pilots as co-pilot
PPL(A)/IR	> 100 hours PIC instrument flight time	Private flights under IFR
PPL(H)/IR	> 100 hours PIC instrument flight time	Private flights under IFR
PPL(PL)/IR	> 100 hours PIC instrument flight time	Private flights under IFR
Flight engineer	> 1 500 hours as flight engineer on aeroplanes in commercial air transport	Commercial air transport in aeroplanes as flight engineer
Flight engineer	> 1 000 hours as flight engineer on aeroplanes in other than commercial air transport	Other than commercial air transport in aeroplanes as flight engineer

Note 1: > = greater than

2.2.4.2 CONVERSION OF FLIGHTCREW LICENCES

- (a) Conversion of a foreign pilot licence for issuance of a PPL by Curaçao. A person who holds a current and valid pilot licence with at least PPL privileges, issued by another Contracting State in accordance with ICAO Annex 1, may apply for a conversion and be issued with a PPL for use on aircraft registered in Curaçao provided the following requirements are met.
 - (1) The holder shall:
 - (i) present to the Authority evidence of at least 75 hours total of flight time;
 - (ii) present to the Authority the foreign licence, evidence of experience required by presenting the record (e.g. logbook) and current medical certificate;
 - (iii) present to the Authority evidence of language proficiency in English as specified in 2.2.2 or shall demonstrate to the Authority the language proficiency skills as specified in 2.2.2;
 - (iv) obtain a Class 2 medical certificate issued under this Part;
 - (v) demonstrate, to the satisfaction of the Authority and relevant to the licence to be converted, knowledge of Curacao's:
 - A) Air Law;
 - B) Meteorology;
 - C) Operational Procedures;
 - D) Radiotelephony; and

- E) Navigation.
 - (vi) complete a PPL skill test.
- (2) The Authority will verify the authenticity of the licence, ratings, authorisations and the medical certificate with the state of licence issue prior to converting the licence.
- (b) Conversion of PPL/IR, CPL, CPL/IR, MPL, ATPL licences, which have been validated in accordance with paragraph 2.2.4.1.
 - (1) The holder of a current and valid foreign CPL, CPL/IR, MPL, ATPL or Flight Engineer licence issued by another Contracting State in accordance with ICAO Annex 1, and appropriate medical certificate, may apply for conversion to the appropriate licence and ratings issued by Curaçao provided the following requirements are met:
 - (i) The applicant is the holder of a current validation certificate issued under 2.2.4.1;
 - (ii) The applicant has completed 200 flight hours in a Curaçao registered aircraft which is operated by an operator established in Curaçao exercising the privileges granted by the validation certificate;
 - (iii) The applicant for the conversion shall present to the Authority the foreign licence and evidence of the 200 flight hours by presenting the record (e.g. logbook); and
 - (iv) The applicant shall hold or obtain a medical certificate issued under this Part, appropriate to the level of licence to be converted;
 - (v) Ratings listed on a person's foreign pilot licence that have been validated in accordance with paragraph 2.2.4.1, may be placed on that person's converted licence.
 - (2) The holder of a current and valid foreign PPL/IR issued by another Contracting State in accordance with ICAO Annex 1, and appropriate medical certificate, may apply for conversion to the appropriate licence and ratings issued by Curaçao provided the following requirements are met:
 - (i) The applicant is the holder of a current validation certificate issued under 2.2.4.1;
 - (ii) The applicant has completed 75 flight hours in a Curaçao registered aircraft in Curaçao exercising the privileges granted by the validation certificate,
 - (iii) The applicant for the conversion shall present to the Authority the foreign licence and evidence of the 75 flight hours by presenting the record (e.g. logbook); and
 - (iv) The applicant shall hold or obtain a medical certificate issued under this Part, appropriate to the level of licence to be converted.
 - (v) Ratings listed on a person's foreign pilot licence that have been validated in accordance with paragraph 2.2.4.1, may be placed on that person's converted licence.

2.2.4.3 VALIDATION OF FLIGHTCREW LICENCES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

- (a) Notwithstanding paragraphs 2.2.4.1 and 2.2.4.2, the Authority may issue a validation certificate with the applicable ratings to the holder of a current and valid foreign licence and current medical certificate, provided:
 - 1) the licence is issued by another ICAO Contracting State;

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- 2) the Authority is convinced that the licence has been issued on the basis of at least Part 2;
 - 3) there is an agreement between the Authority and the other Contracting State about recognition of licences and, if applicable, keeping the licences and ratings current and valid; and
 - 4) the applicant for the validation certificate shall demonstrate, to the satisfaction of the Authority and relevant to the licence, knowledge of Curaçao's:
 - (i) Air law;
 - (ii) Meteorology;
 - (iii) Operational procedures;
 - (iv) Radiotelephony; and.
 - (v) Navigation.
- (b) The applicant for the validation certificate shall present to the Authority the:
- 1) Foreign licence and evidence of the currency of the licence by presenting the record (e.g. logbook).
 - 2) Medical certificate relevant to the licence to be validated, provided that the foreign medical certificate meets the requirements of Part 2.
 - 3) Evidence of language proficiency in English as specified in paragraph 2.2.2 or shall demonstrate to the Authority the language skills as specified in paragraph 2.2.2.
- (c) The Authority will verify the authenticity of the licence, ratings, authorisations and the medical certificate with the State of Licence issue prior to issuing the validation.
- (d) The Authority may issue a validation certificate which will be valid for one year, provided the foreign licence, ratings, authorisations and medical certificate remains valid.
- (e) The IS 2.2.4.3 contains procedures for validation of flightcrew licences by reliance upon the licensing system of another ICAO Contracting State.

2.2.4.4 CONVERSION OF FLIGHTCREW LICENCES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

- (a) Notwithstanding paragraphs 2.2.4.1 and 2.2.4.2, the Authority may issue a licence with the applicable ratings to the holder of a current and valid foreign licence, provided:
- (1) the licence is issued by another ICAO Contracting State;
 - (2) the Authority is convinced that the licence has been issued on the basis of at least Part 2; and
 - (3) there is an agreement between the Authority and the other Contracting State about recognition of licences.
- (b) The applicant for the conversion shall present to the Authority the:
- (1) foreign licence and evidence of the currency of the licence by presenting the record (e.g. logbook);
 - (2) medical certificate relevant to the licence if the medical certificate is to be converted or medical certificate issued under Part 2 relevant to the licence sought; and
 - (3) Evidence of language proficiency in English as specified in paragraph 2.2.2 or shall demonstrate to the Authority the language skills as specified in paragraph 2.2.2.

- (c) The applicant shall demonstrate, to the satisfaction of the Authority and relevant to the licence to be converted, the knowledge of Curaçao's:
 - 1) Air law;
 - 2) Meteorology;
 - 3) Operational procedures;
 - 4) Radiotelephony; and
 - 5) Navigation.
- (d) The Authority will verify the authenticity of the licence, ratings, authorisations and the medical certificate with the State of Licence issue prior to issuing the licence.
- (e) The IS 2.2.4.4 contains procedures conversion of flightcrew licences by reliance upon the licensing system of another ICAO Contracting State.

2.2.4.5 VALIDATION IN CASE OF LEASED, CHARTERED OR INTERCHANGED AIRCRAFT

- (a) The requirements stated in 2.2.4.1 shall not apply where aircraft registered in Curaçao are leased to, chartered by or interchanged by an operator of another Contracting State, provided that during the term of the lease the State of the Operator has accepted the responsibility for the technical and/or operational supervision in accordance with Art. 83 bis of the ICAO Convention.
- (b) The licences of the flightcrew of the other Contracting State may be validated, provided that the privileges of the flightcrew licence validation are restricted for use during the lease, charter or interchange period only on nominated aircraft in specified operations not involving a Curaçao operator, directly or indirectly through a wet lease or other commercial arrangement.
- (c) The Authority will verify the authenticity of the licence, ratings, authorisations, including the English language proficiency endorsement of at least Level 4, and the medical certificate, with the State of Licence issue prior to issuing the validation.

2.2.4.6 TEMPORARY VALIDATION OF NON-CURAÇAO PILOT LICENCES HELD BY MANUFACTURER PILOTS

- (a) In circumstances where validation of a non-Curaçao pilot licence is needed to fulfil specific tasks of finite duration, the Authority may issue a temporary validation of such a licence for those tasks as described in this paragraph.
- (b) Notwithstanding the requirements contained in Sections 2.2.4.1, 2.2.4.2, 2.2.4.3 or 2.2.4.4, the Authority may temporarily validate a licence issued by another ICAO Contracting State in accordance with the provisions of ICAO Annex 1, including an instructor rating or examiner authorisation issued by that State, provided that the holder of the licence shall:
 - 1) Possess an appropriate licence, medical certificate, type ratings and qualifications, to include instructor or examiner qualifications, valid in the State of licence issue for the duties proposed;
 - 2) Demonstrate, to the satisfaction of the Authority and relevant to the licence to be validated, knowledge of Curaçao's:
 - (i) Air law;
 - (ii) Meteorology;
 - (iii) Operational Procedures; and

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- (iv) Radiotelephony.
 - (3) Provide evidence of language proficiency in English as specified in paragraph 2.2.2 or shall demonstrate to the Authority the language skills as specified in paragraph 2.2.2.
 - (4) Be employed by an aircraft manufacturer or Approved Training Organisation located outside Curaçao performing training on behalf of an aircraft manufacturer; and
 - (5) Be limited to performing flight instruction and testing for initial issue of type ratings, the supervision of initial line flying by the pilots of an operator in Curaçao, delivery or ferry flights, initial line flying, flight demonstrations or test flights.
 - (c) Whenever conducting or supervising line flying, the pilot shall also be required to meet the relevant requirements of Part 8.
 - (d) The Authority will verify the authenticity of the licence, ratings, authorisations and medical certificate with the State of licence issue prior to issuing the temporary validation.
 - (e) The duration of the temporary validation shall be for one year.

2.2.4.7 VALIDATION OF AIRCRAFT MAINTENANCE TECHNICIAN LICENCES

- (a) General requirements for validation.
 - 1) A person who holds a current and valid AMT licence issued by another Contracting State, in accordance with ICAO Annex 1, may apply for a validation of such licence for use on aircraft registered in Curaçao.
 - 2) The applicant for the validation certificate shall present to the Authority the foreign licence and evidence of the experience required by presenting the personal record.
 - 3) The applicant for the validation certificate shall demonstrate to the Authority ability to read, write and communicate to an understandable level in the language(s) in which the technical documentation and procedures necessary to support the issue of the certificate of release to service are written.
 - 4) The Authority will verify the authenticity of the licence, ratings authorisations with the state of licence issue prior to issuing the validation.
 - 5) The Authority will only validate ratings or authorisations on the foreign licence together with the validation of a licence
 - 6) The Authority may issue a validation certificate which will be valid for one year, provided the foreign licence, ratings or authorisations remains valid.
- (b) The applicant for the validation certificate shall demonstrate to the satisfaction of the Authority the knowledge relevant to the licence to be validated of:
 - (1) Air Law;
 - (2) Applicable Airworthiness requirements governing certification and continuing airworthiness; and
 - (3) Approved maintenance organisations and procedures.
- (c) The applicant for the validation certificate shall complete a skill test for the relevant licence and ratings that he or she wants to be validated relevant to the privileges of the licence held; and
- (d) Have a minimum of four years AMT experience.

2.2.4.8 RESERVED

2.2.4.9 VALIDATION OF AMT LICENCES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

- (a) Notwithstanding paragraphs 2.2.4.7, the Authority may issue a validation certificate with the applicable ratings to the holder of a current and valid foreign AMT, provided:
- 1) the licence is issued by another ICAO Contracting State;
 - 2) the Authority had determined that the licence has been issued on the basis of at least Part 2;
 - 3) there is an agreement between the Authority and the other Contracting State about recognition of licences and, if applicable, keeping the licences and ratings current and valid; and
 - 4) the applicant for the validation certificate demonstrates, to the satisfaction of the Authority and relevant to the licence to be validated, knowledge of Curaçao's:
 - (i) Air law;
 - (ii) Applicable Airworthiness requirements governing certification and continuing airworthiness; and
 - (iii) Approved maintenance organisations and procedures.
 - 5) The applicant for the validation certificate shall present to the Authority the:
 - (i) Foreign licence and evidence of the currency of the licence by presenting the personal record.
 - 6) The applicant for the validation shall demonstrate to the Authority ability to read, write and communicate to an understandable level in the language(s) in which the technical documentation and procedures necessary to support the issue of the certificate of release to service are written.
 - (i) The authority will verify the authenticity of the licence, ratings, with the State of Licence issue prior to issuing the validation.
 - (ii) The Authority may issue a validation certificate which will be valid for one year, provided the foreign licence, ratings, and authorisations remain valid.
 - (iii) The IS 2.2.4.9 contains procedures for validation of AMT licences by reliance upon the licensing system of another ICAO Contracting State.

2.2.4.10 RESERVED

2.2.5 TRAINING AND TESTING REQUIREMENTS

2.2.5.1 DOCUMENTATION OF TRAINING AND AERONAUTICAL EXPERIENCE

- (a) Each person shall document and record the following in a manner acceptable to the Authority:
- 1) Training and/or experience used to meet the requirements for a licence, rating, endorsement and/or authorisation of Part 2; and
 - 2) The experience required to show the maintaining of recency of aeronautical experience according to the requirements of Part 2.

2.2.5.2 TRAINING CONDUCTED IN AN APPROVED TRAINING ORGANISATION

- (a) Approved training for aviation personnel licences shall be conducted within an approved training organisation.
- (b) The Authority may approve a training programme for a licence, rating, authorisation or endorsement that allows an alternative means of compliance with the experience requirements prescribed in this Part when training is conducted within an Approved Training Organisation under special curricula approved by the Authority under Part 3.
- (c) Prior to authorizing an alternative means of compliance that permits an Approved Training Organization to conduct training, which does not meet the normal prescribed experience requirements, the Authority shall ensure that the approved training programme provides a level of competency at least equal to that provided by the minimum experience requirements for personnel not receiving such approved special curricula.
- (d) Part 3 prescribes the requirements for certifying and administering Approved Training Organisations for conducting approved training.
- (e) Competency-based approved training for aircraft maintenance personnel shall be conducted within an approved training organisation.

2.2.5.3 USE OF FLIGHT SIMULATION TRAINING DEVICES

- (a) Except as specified in paragraph (b) of this subsection, no airman may receive credit for use of any flight simulation training device for satisfying any training, testing, or checking requirement of this part unless that flight simulator or flight training device is approved by the Authority for:
 - 1) The training, testing, and checking for which it is used;
 - 2) Each particular manoeuvre, procedure, or crewmember function performed; and
 - 3) The representation of the specific category and class of aircraft, type of aircraft, particular variation within the type of aircraft, or set of aircraft for certain flight training devices.
- (b) The flight simulation training device shall have the same technology for the basic flight instruments (attitude indicator, airspeed, altimeter and heading reference) as those of the aircraft used by the operator.
- (c) Operators that have electronic/glass displays shall use simulators that have electronic/glass displays.
- (d) Operators that have standard instruments shall use simulators that have standard instruments.
- (e) Operators shall not conduct differences training on variant training on aircraft that have electronic glass displays with aircraft that have standard instruments.
- (f) The Authority may approve a device other than a flight simulation training device for specific purposes.
- (g) The use of a flight simulation training device for performing training, testing and checking for which a flight crewmember is to receive credit, shall be approved by the Authority, which shall ensure that the flight simulation training device is appropriate to the task.

2.2.5.4 KNOWLEDGE AND SKILL TESTS AND CHECKS: TIME, PLACE, DESIGNATED PERSONS AND FORMAT

- (a) Knowledge and Skill Tests and Checks prescribed by or under Part 2 are given at times, places, and by persons authorised and designated by the Authority.

- (b) The knowledge test will be performed in written or computer format, except for the knowledge test for an instructor licence or an additional instructor rating within the same aircraft category, which may be performed orally.
- (c) In addition to the written knowledge test, candidates may be questioned orally during the skill test, as appropriate.

2.2.5.5 KNOWLEDGE AND SKILL TESTS AND CHECKS—PREREQUISITES, PASSING GRADES AND RETESTING AFTER FAILURE

- (a) An applicant for a knowledge test or a skill test shall have received any required endorsement as specified in this Part for the applicable licence, rating or authorisation to show that the applicant has met the training and/or experience requirements to take the knowledge or skill test.
- (b) An applicant for a knowledge or skill test shall receive written authorisation from the Authority to take, or retake, the test.
- (c) An applicant shall show proper identification in the form of a Government issued identification document at the time of application that contains the applicant's:
 - 1) Photograph;
 - 2) Signature;
 - 3) Date of birth, which shows the applicant meets or will meet the age requirements of Part 2 for the licence sought before the expiration date of the airman knowledge test report; and
 - 4) Actual residential address, if different from the applicant's mailing address.
- (d) The Authority will specify the minimum passing grades.
- (e) An applicant shall, before attempting the skill test for a licence or rating:
 - 1) Have passed the required knowledge test within the 24 calendar-month period preceding the month the applicant successfully completes the skill test; or
 - 2) If an applicant for an ATPL has passed the ATP knowledge test within a period of 7 years before successfully completing the ATP skill test, provided that the applicant is, and has been continuously, employed as a flight crewmember by a certificate holder under Part 9 at the time of the ATP skill test; and
- (f) When an applicant is required to provide an aircraft for a skill test, it must:
 - 1) be airworthy and certificated;
 - 2) be capable of performing all areas of operation appropriate to the rating sought and have no operating limitations, which prohibit its use in any of the areas of operation, required for the skill test
 - 3) not have operating limitations that prohibit the tasks required for the skill test,
 - 4) be of national, foreign or military registry of the same category, class, and type if applicable, for the licence and/or rating for which the applicant is applying;
 - 5) have :
 - (i) fully functioning dual controls;
 - (ii) at least two pilot stations with adequate visibility for each person to operate the aircraft safely;

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- (iii) cockpit and outside visibility adequate to evaluate the performance of the applicant when an additional jump seat is provided for the examiner.
 - (g) If the applicant is required to take a segmented skill test using a flight simulation training device and an aircraft, the flight simulation training device must be approved by the Authority.
 - (h) Retesting after failure of a test:
 - 1) An applicant for a knowledge or skill test who fails that test may reapply to retake the test only after the applicant has received:
 - (i) The necessary training from an authorised instructor who has determined that the applicant is proficient to pass the test; and
 - (ii) An endorsement from an authorised instructor who gave the applicant the additional training.
 - (2) An applicant for a flight instructor licence with an aeroplane category rating, who has failed the skill test due to deficiencies in instructional proficiency on stall awareness, spin entry, spins, or spin recovery shall:
 - (i) Comply with the requirements of paragraph (f)(1) of this subsection before being retested;
 - (ii) Bring an aircraft to the retest that is of the appropriate aircraft category for the rating sought and is certified for spins; and
 - (iii) Demonstrate satisfactory instructional proficiency on stall awareness, spin entry, spins, and spin recovery to an examiner during the retest.

2.2.5.6 RELIANCE ON TRAINING AND TESTING IN ANOTHER CONTRACTING STATE

- (a) The Authority may rely on the training and/or testing system administered by another Contracting State as the basis for its own approved training curriculum, including the administration of written and/or skill test requirements for airman licences provided that the Authority has an agreement with the other Contracting State whose training and/or testing system is used.
- (b) The applicant shall apply for and receive written approval from the Authority prior to receiving training and/or testing in a system administered by another Contracting State.

2.2.6 INSTRUCTOR REQUIREMENTS—GENERAL

- (a) All applicants for instructor licences and ratings or authorisations shall, in addition to specific requirements contained in this Part, have received and logged training from an authorised instructor on the fundamentals of instructing and have passed a knowledge test on the following areas of instructing:
 - (1) Techniques of applied instruction;
 - (2) Assessment of student performance in those subjects in which ground instruction is given;
 - (3) The learning process;
 - (4) Elements of effective teaching;
 - (5) Student evaluation and testing, training philosophies;
 - (6) Training programme development;
 - (7) Lesson planning;

- (8) Classroom instructional techniques;
 - (9) Use of training aids, including flight simulation training devices as appropriate;
 - (10) Analysis and correction of student errors;
 - (11) Human performance relevant to flight instruction;
 - (12) Hazards involved in simulating system failures and malfunctions in the aircraft; and
 - (13) Principles of threat and error management.
- (b) The following applicants do not need to comply with paragraph (a) of this subsection:
- 1) The holder of an instructor licence or authorisation issued under this part who has already passed the knowledge test in the areas of instructing;
 - 2) The holder of a current teacher's certificate issued by a national or local authority that authorises the person to teach at a secondary educational level or higher; or
 - 3) A person who provides evidence of an equivalent level of experience acceptable to the Authority.

2.2.7 DESIGNATED EXAMINERS

- (a) The Authority may designate private individuals to act as representatives of the Director General of Civil Aviation in examining, inspecting, and testing persons and aircraft for the purpose of issuing airmen and aircraft licences, ratings and certificates.
- (b) The specific requirements for each type of designated examiner are contained in the appropriate licensing section of Part 2 related to the licensing requirements of the persons to be examined.
- (c) The Authority will issue each designated examiner a certificate of designated authority and a designee identification card specifying the kinds of designation for which the individual is qualified and the duration of the designation.

2.2.8 SPECIFICATIONS AND FORMAT OF THE LICENCE

- (a) The licence shall be made of a suitable material as listed in ICAO Annex 1: 5.1.2.
- (b) The licence format shall be in a form and manner prescribed by the Authority.
- (c) The items required on the licence are indicated in IS 2.2.8.
- (d) The licence shall contain the expiration date of the licence and ratings.
- (e) The licence shall be issued in the English language.

2.2.9 SUSPENSION OR REVOCATION OF A LICENCE, RATING, AUTHORISATION OR CERTIFICATE

Note 1: See also Part 1: Section 1.3.

2.2.9.1 SUSPENSION OF A LICENCE, RATING AUTHORISATION OR VALIDATION CERTIFICATE

- (a) If, in accordance with the Curaçao Civil Aviation Act the Authority determines that in the interest of safety requires that a licence, rating, authorisation or certificate must be suspended, the Authority may act as follows:
- 1) If the Authority discovers facts indicating either a lack of competency or lack of qualification, the Authority may, require an applicant for or the holder of any licence, rating, authorisation, or validation certificate to retake all or part of the knowledge or practical tests required for any licence, rating, authorisation, or validation certificate at issue, renewal or re-issue. The Authority may suspend the validity of any such licence, rating, authorisation and/or validation certificate pending the results of such re-testing.
 - 2) A person whose licence, rating, authorisation, or certificate has been amended, modified, suspended, or revoked shall be provided with notice and an opportunity to be heard in accordance with Part 1 under 1.3.
 - 3) After notifying the person involved, in writing, stating the reasons for such action, the Authority may also suspend the validity of any licence, rating, authorisation and/or validation certificate in the following cases:
 - (i) During the investigation of an aircraft disaster or incident;
 - (ii) In cases of proven misconduct, recklessness or excessive carelessness;
 - (iii) If the holder has acted in contradiction to his or her privileges; and/or
 - (iv) pending the investigation of a suspected violation of these regulations or the aviation law under which these regulations are affected.
 - 4) Once the suspension is effective, the person involved shall immediately cease exercising the privileges of the affected licence, certificate, rating or authorisation. The person involved shall surrender to the Authority all licences or validation certificates in his or her possession that are subject to the suspension within 8 days of receiving the notification of the order. If the person fails to surrender the documents under suspension, the Authority may revoke all such certificate(s) held by that person.
 - 5) When a suspension is limited to one or more ratings mentioned on the licence or validation certificate, the Authority shall provide the person involved with a new licence or validation certificate omitting all ratings which are subject to the suspension.
 - 6) The Authority may cancel a suspension in the following cases:
 - (i) If person under suspension has taken and passed the knowledge or practical tests required for any licence, rating, or authorisation at issue indicated in (a);
 - (ii) If the person involved has gained the required additional experience; or
 - (iii) By revocation of the licence, rating, authorisation and/or validation certificate.
 - 7) Once the suspension has been cancelled, other than by revocation, the Authority shall issue the person involved a new licence or validation certificate.

2.2.9.2 SUSPENSION OF A MEDICAL CERTIFICATE

- (a) In case of doubt concerning the medical fitness of the holder of a medical certificate the Authority may determine that the person involved shall again repeat a complete or partial medical examination, and may suspend the validity of that medical certificate until the repeat examination is completed with favourable results.

- (b) The validity of a medical certificate may also be suspended in case of a temporary rejection on medical grounds.
- (c) The person holding the medical certificate will be notified in writing of a suspension stating the reasons for that suspension.
- (d) The person holding the suspended medical certificate shall surrender the medical certificate in his or her possession to the Authority within 8 days after the date of receiving the notification.
- (e) In cases in which the medical fitness of the person involved allows it, the Authority may provide the person with a suspended medical certificate of a particular class with a new medical certificate of a lower class.
- (f) A suspension may be lifted if the medical examination intended in (a) has been passed satisfactorily. If a suspension is lifted, the person involved shall receive a new medical certificate unless the medical certificate was revoked.

2.2.9.3 REVOCATION OF LICENCES, RATINGS AUTHORISATIONS OR CERTIFICATES

- (a) A licence, rating, authorisation or certificate shall be revoked if the holder has lost the skills for exercising the privileges mentioned in the document or fails to meet the appropriate medical standards as shown by the results of a medical examination or a test.
- (b) A licence, rating, authorisation and/or certificate may be revoked if the holder has made a statement contrary to the truth in obtaining or maintaining that licence, rating authorisation or certificate, or has provided incorrect data at a medical examination and/or test required for the issue, maintenance or renewal of the licence, rating, authorisation and certificate.
- (c) A licence, rating, authorisation or certificate shall be revoked in case of proven misconduct, recklessness or excessive carelessness. The holder of the licence will be notified in writing of the revocation with the reasons therefore.
- (d) A person who has had a licence or certificate revoked shall be obliged to hand over to the Authority all the licences or certificates in his or her possession applicable to the revocation within 8 days after the date of receiving notification from the Authority.
- (e) The person who has been denied the privilege to manipulate the controls of an aircraft by judgment of a court, shall be equally obliged to hand over to the Authority all licences and certificates in his or her possession within 8 days after he or she has taken cognisance of the judgment or after it can be reasonably assumed that he or she has taken cognisance thereof.

2.3 PILOT LICENCES, CATEGORIES, RATINGS, AUTHORISATIONS, ENDORSEMENTS, INSTRUCTORS FOR PILOT LICENSING, AND DESIGNATED PILOT EXAMINERS

2.3.1 GENERAL

2.3.1.1 APPLICABILITY

- (a) This Section prescribes the requirements for the issue, renewal and re-issue, if applicable, of pilot licences, ratings and authorisations.

2.3.1.2 GENERAL RULE CONCERNING LICENCES, RATINGS AND AUTHORISATIONS

- (a) An applicant shall, before being issued with any pilot licence, rating, authorisation or designation, meet such requirements in respect of age, knowledge, experience, flight instruction, skill, medical fitness and language proficiency as are specified for that licence, rating or authorisation.
- (b) A person shall not act either as PIC or as co-pilot of an aircraft in any of the categories unless that person is the holder of a pilot licence issued in accordance with the provisions of Part 2.
- (c) An applicant shall for renewal or re-issue of a licence, rating, authorisation or designation, meet the requirements as are specified for that licence, rating, authorisation or designation.
- (d) An applicant shall for an initial, renewal or re-issue of a licence, rating, authorisation or designation, comply the applicable fee as per “Landsverordening Luchtvaarttarieven”.

2.3.1.3 AUTHORITY TO ACT AS A FLIGHT CREWMEMBER

- (a) A person shall not act as a pilot flight crewmember of an aircraft registered in Curaçao unless a valid licence or a validation certificate is held showing compliance with the specifications of this Part and appropriate to the duties to be performed by that person.
- (b) No person may act as the PIC or co-pilot of an aircraft unless that person holds the appropriate category, class and type rating for the aircraft to be flown.
- (c) During a skill test, the applicant acts as PIC but the safety pilot will intervene in safety situations.

2.3.1.4 CREDITING OF FLIGHT TIME

- (a) A student pilot or the holder of a pilot licence shall be entitled to be credited in full with all solo, dual instruction and PIC 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.
- (b) 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 Curaçao to be operated with a co-pilot shall be entitled to be credited with not more than 50 per cent of the co-pilot flight time towards the total flight time required for a higher grade of pilot licence. Curaçao may authorise 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.
- (c) 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.
- (d) The holder of a pilot licence, when acting as PIC 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.

2.3.1.5 LIMITATION OF PRIVILEGES OF PILOTS WHO HAVE ATTAINED THEIR 60TH BIRTHDAY AND CURTAILMENT OF PRIVILEGES OF PILOTS WHO HAVE ATTAINED THEIR 65TH BIRTHDAY

- (a) No person who holds a pilot licence issued under this Part shall serve as a PIC in single pilot operations on a civil aircraft of Curaçao registry engaged in commercial air transport operations if the person has reached his or her 60th birthday.
- (b) For commercial air transport operations on a civil aircraft of Curaçao registry requiring more than one pilot, one pilot may be up to 65 years of age provided the other pilot is less than 60 years of age.

Note: Attention should be paid to new ICAO Annex 1 requirements for pilot who have attained their 60th birthday, the validity period of medical assessment shall be reduced to six months

2.3.1.6 RECENT EXPERIENCE AND PROFICIENCY REQUIREMENTS NON-COMMERCIAL AIR TRANSPORT OPERATIONS

Note: For commercial air transport operations, see Part 8: 8.4.

- (a) In order to maintain recency and proficiency, all pilots shall meet the applicable requirements in (b) —(g) below.
- (b) No person shall operate as PIC of an aircraft unless, that pilot has within 24 months, accomplished a flight review that includes:
 - 1) A review of the current general operating and flight rules of Part 8;
 - (2) A review of those manoeuvres and procedures that, at the discretion of the person giving the review are necessary for the pilot to demonstrate the safe exercise of the privileges of the pilot licence;
 - (3) A proficiency check in the appropriate aircraft for the licence, ratings or authorisations held, unless within the past 24 months, the pilot has satisfactorily completed one of the following:
 - (i) A pilot proficiency check or practical test conducted by an authorised CAA examiner, for a pilot certificate, rating, or operating privilege.
 - (ii) A practical test conducted by an authorised CAA examiner for the issuance of a flight instructor certificate, an additional rating on a flight instructor certificate, renewal of a flight instructor certificate, or reinstatement of a flight instructor certificate; and
 - (4) A logbook endorsement from an authorised instructor who gave the review, certifying that the person has satisfactorily completed the review required in (i) and (ii) above and completed the applicable proficiency check.
- (c) Aircraft type certificated for more than one pilot.
 - 1) No person may act as PIC of an aircraft type certified for more than one pilot or a turbojet aircraft unless, since the beginning of the past 12 calendar months, he or she has passed a proficiency check in an aircraft, or in a flight simulation training device approved for the purpose, with an authorised representative of the Authority.
 - (2) No person may act as co-pilot of an aircraft type certified for more than one pilot unless, since the beginning of the past 12 calendar-months, he or she has logged 3 takeoff and landings as the sole manipulator of the controls in the aircraft of the same type, or in a flight simulation training device approved for the purpose, with each takeoff and landing to full stop, and have satisfactorily completed ground training appropriate to the aircraft type.
- (d) Aircraft type certificated for single pilot and requiring a type rating on the pilot licence. No person may act as PIC of an aircraft type certified for a single pilot unless, since the beginning of the 12 calendar-months, he or she has passed a proficiency check with an authorised representative of the Authority in the category, class and type of aircraft to be operated, or in a flight simulation training device approved for the purpose.
- (e) Recency for Carriage of Passengers. No person may act as PIC or co-pilot of an aircraft carrying passengers unless, within the preceding 90 days that pilot has:

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- (1) Made 3 takeoffs and landings as the sole manipulator of the flight controls in an aircraft of the same category and class and if a type rating is required, of the same type or in a flight simulation training device approved for the purpose.
 - (2) For a tailwheel aeroplane, made the 3 takeoffs and landings in a tailwheel aeroplane with each takeoff and landing to a full stop.
 - (3) For night operations, made the 3 takeoffs and landings required by paragraph (a)(1) at night with each takeoff and landing to a full stop.
 - (f) IFR Operations. A pilot shall not operate as PIC of an aircraft under IFR or in weather conditions less than the minimums prescribed for VFR flight unless within the preceding six months:
 - 1) The pilot had an instrument proficiency check on the manoeuvres in the IR Skill Test and Proficiency Check contained in IS 2.3.8.2 or
 - (2) Has logged in actual or simulated conditions six hours instrument flight time including at least three hours in flight in the category of aircraft to include:
 - (i) six instrument approaches;
 - (ii) holding procedures and tasks; and
 - (iii) intercepting and tracking courses through the use of navigational electronic systems.
 - (f) Night Vision Goggle Operations. No person may act as PIC in a night vision goggle operation unless:
 - 1) that pilot has performed and logged the following tasks as the sole manipulator of the controls on a flight during a night vision goggle operation, within the preceding 60 days to carry passengers on board, or within the preceding 120 days to act as PIC without passengers on board:
 - 2) three takeoffs and landings, with each takeoff and landing including a climb out, cruise, descent, and approach phase of flight, if the pilot intends to use night vision goggles during the takeoff and landing phase of flight;
 - 3) three hovering tasks, if the pilot intends to use night vision goggles when operating helicopters or powered-lifts during the hovering phase;
 - 4) three area departure and area arrival tasks;
 - 5) three tasks of transitioning from aided night flight to unaided night flight and back to aided night flight.
 - 6) three night vision goggle operations, or when operating helicopters or powered-lifts, 6 night vision goggle operations; or
 - 7) Successfully completed a proficiency check with an authorised representative of the Authority

2.3.1.7 RECORDING OF FLIGHT TIME

- (a) Each person shall document and record the following time in a manner acceptable to the Authority as outlined in IS 2.3.1.7
- (b) Training and experience used to meet the requirements for a licence, rating and authorisation of Part 2; and
- (c) The experience required to show recent flight experience according to the requirements of Part 2.

2.3.2 CATEGORY, CLASS AND TYPE RATINGS, CATEGORY II/III AUTHORISATIONS, AND ENDORSEMENTS

2.3.2.1 GENERAL

- (a) The holder of a pilot licence shall not be permitted to act as PIC or as co-pilot of an aircraft unless the holder has received the applicable ratings, authorisations and/or endorsements as follows:
 - 1) The appropriate aircraft category rating specified in this Part;
 - 2) The appropriate class rating when required in accordance with this Part;
 - 3) A type rating when required in accordance with this Part;
 - 4) An authorisation when required in accordance with this Part; or
 - 5) An endorsement when required in accordance with this Part.
- (b) The applicant shall meet the appropriate requirements of this Part for the aircraft rating, authorisation or endorsement sought.
- (c) When an applicant demonstrates skill and knowledge for the initial issue or re-issue of a pilot licence, the category and ratings appropriate to the class or type of aircraft used in the demonstration will be entered on the licence.
- (d) For the purpose of training, testing or specific special purpose non-revenue, non-passenger carrying flights, special authorisation may be provided in writing to the licence holder by the Authority in place of issuing the class or type rating in accordance with (a). This authorisation shall be limited in validity to the time needed to complete the specific flight.

2.3.2.2 CATEGORY RATINGS

- (a) The category of aircraft shall be endorsed on the licence as a rating.
- (b) Initial category rating:
 - 1) An applicant for a pilot's licence, after successfully meeting all requirements for the issuance of the licence as contained in this Part, shall receive the appropriate licence with the aircraft category, and if applicable, class or type rating endorsed on the licence.
- (c) Additional category ratings:
 - 1) Any additional category rating endorsed on a pilot licence shall indicate the level of licensing privileges at which the category rating is granted.
 - 2) The holder of a pilot licence seeking an additional category rating shall:
 - (i) Meet the requirements of this Part appropriate to the privileges for which the category rating is sought;
 - (ii) Have an endorsement in his/her logbook or training record from an authorised instructor that the applicant has been found competent in the required aeronautical knowledge and flight instruction areas;
 - (iii) Pass the required knowledge test; and
 - (iv) Pass the required skill test for the aircraft category, and if applicable, class rating being sought.
- (d) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of a class rating are to act as a pilot on the class of aircraft specified in the rating.

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- (e) The validity, renewal or reissue of the category rating will coincide with the requirements for validity, renewal or reissue of the licence, and if applicable class or type rating contained in this Part.

2.3.2.3 CLASS RATINGS

- (a) The class of aircraft, if applicable, shall be endorsed on the licence as a rating.
- (b) Initial class rating.
- 1) An applicant for a pilot's licence, after successfully meeting all requirements for the issuance of the licence as contained in this Part, shall receive the appropriate licence with the aircraft category, class, and if applicable, type rating endorsed on the licence.
- (c) Additional class ratings.
- 1) Any additional class rating endorsed on a pilot licence shall indicate the level of licensing privileges at which the class rating is granted.
 - 2) The holder of a pilot licence seeking an additional class rating shall:
 - (i) Meet the requirements of this Part appropriate to the privileges for which the class rating is sought;
 - (ii) Have an endorsement in his/her logbook or training record from an authorised instructor that the applicant has been found competent in the required aeronautical knowledge and flight instruction areas;
 - (iii) Pass the required knowledge test unless the applicant holds a class rating within the same category of aircraft, at the same level of pilot licence at either the private or commercial levels; and
 - (iv) Pass the required skill test for the aircraft class rating being sought.
- (d) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of a class rating are to act as a pilot on the class of aircraft specified in the rating.
- (e) Validity: Subject to compliance with the requirements specified in this Part, the validity period of:
- 1) A multi-engine class rating is 1 calendar year.
 - 2) A single-engine class rating is 2 calendar years.
- (f) Renewal Timeframe:
- 1) For the renewal of a single-engine class rating the pilot shall:
 - (i) Within the preceding 24 calendar months, complete a proficiency check on areas of operation listed in the skill test that is applicable to the level of licence, category and class rating; and
 - (ii) Have completed 12 hours flight time within the 12 months preceding the expiry date.
 - 2) For the renewal of a multi-engine class rating the pilot shall:
 - (i) Within the preceding 12 calendar months, complete a proficiency check on the subjects listed in the skill test that is applicable to the level of licence, category and class rating; and
 - (ii) Have completed 10 route sectors within the 3 months preceding the expiry date.

- 3) Where applicable the proficiency check shall include instrument procedures, including instrument approach and landing procedures under normal, abnormal and emergency conditions, including simulated engine failure.
- 4) If a pilot takes the proficiency check required in this section in the calendar month before or the calendar month after the month in which it is due, the pilot is considered to have taken it in the month in which it was due for the purpose of computing when the next proficiency check is due.
- (g) Re-issue. If the class rating has expired the applicant shall:
 - 1) Have received refresher training from an authorised instructor with an endorsement that the person is prepared for the required skill test; and
 - 2) Pass the required skill test for the applicable aircraft category and/or class.
 - 3) Where applicable the skill test shall include instrument procedures, including instrument approach and landing procedures under normal, abnormal and emergency conditions, including simulated engine failure.

2.3.2.4 TYPE RATINGS

- (a) The type rating shall be endorsed on the licence as a rating, including any limitations.
- (b) A pilot seeking an aircraft type rating to be added on a pilot licence shall:
 - (1) Have received training from an authorised instructor in the applicable type of aircraft and/or approved flight simulation training device 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 equipment, such as engine, 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 crew coordination including allocation of pilot tasks, crew cooperation and use of checklists; and
 - (v) For the issue of an aeroplane category type rating, upset prevention and recovery training.
 - (2) Hold or concurrently obtain an instrument rating that is appropriate to the aircraft category, class or type rating sought;
 - (3) Have an endorsement in his or her logbook or training record from an authorised instructor that the applicant has been found competent in the required aeronautical knowledge and flight instruction areas;
 - (4) Pass the required skill test at the ATPL level, applying crew resource management concepts, applicable to the aircraft category, class and type rating being sought;
 - (i) Applicants seeking a private or commercial licence in an aircraft that requires a type rating shall also complete the applicable portions of either the PPL or CPL skill test in conjunction with the ATPL skill test.
 - (5) Perform the skill test under instrument flight rules unless the aircraft used for the skill test is not capable of the instrument manoeuvres and procedures required for the skill test in which case the applicant may:

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- (i) Obtain a type rating limited to “VFR only,” and
 - (ii) Remove the “VFR only” limitation for each aircraft type in which the applicant demonstrates compliance with the ATPL skill test under instrument conditions.
 - (c) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of a type rating are to act as a pilot on the type of aircraft specified in the rating. When a type rating is issued limiting the privileges to act as co-pilot or limiting the privileges to act as pilot only during the cruise phase of flight, such limitation shall be endorsed on the rating.
 - (d) Validity. Subject to compliance with the requirements in this Part, the validity period of a type rating is 1 calendar year.
 - (e) Renewal. For the renewal of a type rating the pilot shall:
 - 1) Within the preceding 12 calendar months, complete a proficiency check: in the areas of operation listed in the skill test for the appropriate category, type and if applicable class of aircraft.
 - 2) Have completed 10 route sectors within the 3 months preceding the expiry date.
 - 3) If a pilot takes the proficiency check required in this section in the calendar month before or the calendar month after the month in which it is due, the pilot is considered to have taken it in the month in which it was due for the purpose of computing when the next proficiency check is due.
 - (f) Re-issue. If the type rating has been expired the applicant shall:
 - 1) Have received refresher training from an authorised instructor with an endorsement that the person is prepared for the required skill test; and
 - 2) Pass the required skill test for the appropriate category, type and if applicable class of aircraft.

2.3.2.5 CATEGORY II AND III AUTHORISATION

- (a) The Authority will issue a Category II or Category III pilot authorisation by letter, to accompany the pilot's licence, when the pilot meets the requirements contained in this paragraph and IS 2.3.2.5.
- (b) General.
 - 1) A person, not flying for an AOC holder under Part 9, may not act as pilot of an aircraft during Category II or III operations unless that person holds a Category II or III pilot authorisation for that category, class or type of aircraft.
 - 2) The applicant for a Category II or III pilot authorisation shall:
 - (i) Hold a pilot licence with an instrument rating or an ATPL; and
 - (ii) Hold a category and class or type rating for the aircraft for which the authorisation is sought.
- (c) Knowledge. The applicant for a Category II or III pilot authorisation shall have completed the theoretical knowledge instruction on the subjects as listed in IS 2.3.2.5.
- (d) Experience. The applicant for a Category II or III pilot authorisation shall have at least:
 - 1) 50 hours of night flight time as PIC;
 - 2) 75 hours of instrument time under actual or simulated instrument conditions; and
 - 3) 250 hours of cross-country flight time as PIC.

- (e) Flight instruction. The applicant for a Category II or III pilot authorisation shall have completed the flight instruction on the areas of operation listed in IS 2.3.2.5.
- (f) Skill. The applicant for a Category II or III pilot authorisation shall pass a skill test including the areas of operation listed in IS 2.3.2.5.
- (g) Validity. Subject to compliance with the requirements specified in this Part, the validity period of a Category II and III authorisation is 6 months.
- (h) Renewal. For the renewal of a Category II or III pilot authorisation the pilot shall have completed a proficiency check including the areas of operation listed in IS 2.3.2.5.
- (i) Re-issue. If the Category II or the Category III have been expired the applicant shall:
 - 1) Have received refresher training from an authorised instructor with an endorsement that the person is prepared for the required skill test; and
 - 2) Pass the required skill test on the subjects listed in IS 2.3.2.5.

2.3.2.6 COMPLEX AEROPLANE ENDORSEMENT

- (a) No person shall act as pilot in command of a complex aeroplane, including a seaplane, unless the person has:
 - (1) Received and logged ground and flight training from an authorised instructor in a complex aeroplane or flight simulation training device that is representative of a complex aeroplane and has been found proficient in the operation and systems of the aeroplane; and
 - (2) Received a one-time endorsement in the pilot's logbook from an authorised instructor who certifies that person is proficient to operate a complex aeroplane.

2.3.2.7 HIGH PERFORMANCE AEROPLANE ENDORSEMENT

- (a) No person shall act as pilot in command of a high performance aeroplane unless the person has:
 - (1) Received and logged ground and flight training from an authorised instructor in a high performance aeroplane or flight simulation training device that is representative of a high performance aeroplane and has been found proficient in the operation and systems of the aeroplane; and
 - (2) Received a one-time endorsement in the pilot's logbook from an authorised instructor who certifies that person is proficient to operate a high performance aeroplane.

2.3.2.8 HIGH ALTITUDE AIRCRAFT ENDORSEMENT

- (a) No person shall act as pilot in command of a pressurised aircraft capable of operating at high altitudes (an aircraft that has a service ceiling or maximum operating altitude, whichever is lower, above 25,000 feet MSL) unless the person has:
 - (1) Received and logged ground training from an authorised instructor and received an endorsement in the logbook from the instructor certifying the person has satisfactorily accomplished ground training in at least the following subjects:
 - (i) High-altitude aerodynamics and meteorology;
 - (ii) Respiration;

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- (iii) Effects, symptoms, and causes of hypoxia and any other high-altitude sickness;
 - (iv) Duration of consciousness without supplemental oxygen;
 - (v) Effects of prolonged usage of supplemental oxygen;
 - (vi) Causes and effects of gas expansion and gas bubble formation;
 - (vii) Physical phenomena and incidents of decompression; and
 - (viii) Any other physiological aspects of high-altitude flight.
 - (b) Received and logged flight training from an authorised instructor and received an endorsement in the logbook from the instructor certifying the person has satisfactorily accomplished flight training in an aircraft or in a flight simulation training device that is representative of a pressurised aircraft, in at least the following subjects:
 - (1) Normal cruise flight operations while operating above 25,000 feet MSL;
 - (2) Proper emergency procedures for simulated rapid decompression without actually depressurising the aircraft; and
 - (3) Emergency descent procedures.

2.3.2.9 NIGHT VISION GOGGLES ENDORSEMENT

- (a) No person shall act as pilot of an aircraft using night vision goggles, unless the person has received training from an authorised instructor and received an endorsement in the logbook from the instructor certifying the person has satisfactorily accomplished at least the following ground training:
 - (1) Applicable portions of Part 2 and Part 8 that relate to night vision goggles limitations and flight operations;
 - (2) Aeromedical factors related to the use of night vision goggles, including how to protect night vision, how the eyes adapt to night, self-imposed stresses that affect night vision, effects of lighting on night vision, cues used to estimate distance and depth perception at night, and visual illusions;
 - (3) Normal, abnormal, and emergency operations of night vision goggles equipment;
 - (4) Night vision goggles performance and scene interpretation;
 - (5) Night vision goggles operation flight planning, including night terrain interpretation and factors affecting terrain interpretation;
- (b) No person shall act as pilot of an aircraft using night vision goggles, unless the person has received training from an authorised instructor and received an endorsement in the logbook from the instructor certifying the person has satisfactorily accomplished at least the following flight training:
 - (1) Preflight and use of internal external aircraft light systems for night vision goggles operations;
 - (2) Preflight preparation of night vision goggles for night vision goggles operations;
 - (3) Proper piloting techniques when using night vision goggles during the takeoff, climb, enroute descent and landing phases of flight; and
 - (4) Normal, abnormal, and emergency flight operations using night vision goggles.

- (c) The requirements under paragraphs (a) and (b) of this section do not apply if a person can document satisfactory completion of any of the following pilot proficiency checks using night vision goggles in an aircraft:
 - (1) A pilot proficiency check on night vision goggles operations conducted by the military.
 - (2) A pilot proficiency check on night vision goggles operations under Part 2 or Part 8 conducted by an Examiner or Check Airman.
 - (3) A pilot proficiency check on night vision goggles operations conducted by a night vision goggles manufacturer or authorized instructor, when the pilot:
 - (i) Is employed by a government or law enforcement agency; and
 - (ii) Has logged at least 20 hours as pilot in command in night vision goggles operations.

2.3.3 STUDENT PILOTS

2.3.3.1 GENERAL REQUIREMENTS

- (a) Age. The applicant for a student pilot authorisation shall be not less than 16 years of age.
- (b) Knowledge. The applicant for a student pilot authorisation shall receive and log ground training from an authorised instructor in the following subjects:
 - (1) Applicable sections of Part 2 for the category of aircraft to be flown and Part 8;
 - (2) Airspace rules and procedures for the aerodrome where the student will perform solo flight; and
 - (3) Flight characteristics and operation limitations for the make and model of aircraft to be flown.
- (c) Pre-solo flight instruction. Prior to conducting a solo flight, a student pilot shall have:
 - (1) Received and logged flight training for the manoeuvres and procedures applicable to the aircraft category including flight training in those manoeuvres and procedures at night, if the solo flight is to be conducted at night.
 - (2) Demonstrated satisfactory proficiency and safety, as judged by an authorised instructor, on the manoeuvres and procedures for the appropriate category, and class if applicable, of aircraft.
- (d) Solo flight requirements: A student pilot shall not fly solo:
 - (1) Unless holding at least a Class 2 Medical Certificate;
 - (2) Unless under the supervision of, or with the authority of, a licensed flight instructor; and
 - (3) In international flight unless there is a special or general arrangement between Curaçao and the intended State of flight.

2.3.3.2 STUDENT PILOT MANOEUVRES AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING—AEROPLANE CATEGORY

- (a) An applicant for a student pilot authorisation in the aeroplane category shall receive training in the manoeuvres and procedures contained in IS 2.3.3.2.

2.3.3.3 STUDENT PILOT MANOEUVRES AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING—HELICOPTER CATEGORY

- (a) An applicant for a student pilot authorisation in the helicopter category shall receive training in the manoeuvres and procedures contained in IS 2.3.3.3.

2.3.3.4 STUDENT PILOT MANOEUVRES AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING—POWERED-LIFT CATEGORY

- (a) An applicant for a student pilot authorisation in the powered-lift category shall receive training in the manoeuvres and procedures contained in IS 2.3.3.4.

2.3.3.5 STUDENT PILOT MANOEUVRES AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING—AIRSHIP CATEGORY

- (a) An applicant for a student pilot authorisation in the airship category shall receive training in the manoeuvres and procedures contained in IS 2.3.3.5.

2.3.3.6 RESERVED

2.3.3.7 RESERVED

2.3.4 PRIVATE PILOT LICENCE

2.3.4.1 GENERAL REQUIREMENTS

- (a) Age.
 - (1) The applicant for a PPL in all categories other than balloon and glider shall be not less than 17 years of age.
 - (2) The applicant for a PPL in the balloon or glider category shall be not less than 16 years of age.
- (b) Medical fitness. The applicant for a PPL shall hold a current Class 2 Medical Certificate as issued under this Part.
- (c) Knowledge areas. The applicant for a PPL shall receive and log ground training from an authorised instructor on the following subjects appropriate to the privileges granted to the holder of a private pilot licence and appropriate to the category of aircraft to be included on the licence:
 - 1) Air law:
 - (i) Rules and regulations relevant to the holder of a PPL, rules of the air, appropriate air traffic services practices and procedures.
 - 2) Aircraft general knowledge:
 - (i) Principles of operation and functioning of powerplants, systems and instruments.
 - (ii) Operating limitations of aeroplanes and the relevant category of aircraft and powerplants; relevant operational information from the flight manual or other appropriate document.
 - (iii) For helicopter and powered lift, transmission (power-trains) where applicable;

- (iv) For airship physical properties of gases.
- 3) Flight performance and planning:
 - (i) Effects of loading and mass distribution on flight characteristics, mass and balance calculations.
 - (ii) Use and practical application of take-off or launching, landing and other performance data.
 - (iii) Pre-flight and en-route flight planning appropriate to private operations under VFR, preparation and filing of air traffic services flight plans, appropriate air traffic services procedures, position reporting procedures, altimeter setting procedures, operations in areas of high-density traffic.
- 4) Human performance:
 - (i) Human performance relevant to the appropriate category of aircraft.
 - (ii) Principles of threat and error management.
- 5) Meteorology:
 - (i) Application of elementary aeronautical meteorology, use of, and procedures for obtaining, meteorological information, altimetry, hazardous weather conditions.
- 6) Navigation:
 - (i) Practical aspects of air navigation and dead-reckoning techniques, including the use of aeronautical charts, instruments and navigation aids.
- 7) Operational procedures:
 - (i) Application of threat and error management to operational procedures.
 - (ii) Altimeter setting procedures.
 - (iii) Use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations.
 - (iv) Appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards.
 - (v) 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 under visual meteorological conditions (VMC).
- 8) Principles of flight:
 - (i) Principles of flight relating to the appropriate category of aircraft.
- 9) Radiotelephony:
 - (i) Communications procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure.
- d) Knowledge testing. The applicant for a PPL shall:
 - (1) Have received an endorsement for the knowledge test from an authorised instructor who:
 - i) Conducted the training on the knowledge subjects; and
 - ii) Certifies that the person is prepared for the required knowledge test.
 - (2) Pass the required written knowledge test on the knowledge areas listed in item c).

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- e) Experience and flight instruction. An applicant for a PPL shall have completed the experience and flight instruction requirements appropriate to the aircraft category as specified in this Part.
 - f) Skill. The applicant for a PPL shall:
 - 1) Have received an endorsement from an authorised instructor who certifies that the person is prepared for the required skill test.
 - 2) Have demonstrated by passing a skill test the ability to perform as PIC of an aircraft, within the appropriate category areas of operation described in the appropriate IS listed below, with a degree of competency appropriate to the privileges granted to the holder of a PPL.
 - 3) Have demonstrated the ability to:
 - i) Recognise and manage threats;
 - 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.
 - g) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of a PPL shall be to act, but not for remuneration, as PIC or co-pilot of an aeroplane aircraft within the appropriate aircraft category engaged in non-revenue flights.
 - h) Validity. Subject to compliance with the requirements specified in this Part, the validity period of the licence is 5 years. For renewal or reissue, see 2.2.1.7.
 - i) Renewal. A private pilot licence that has not expired may be renewed for an additional five years if the holder presents to the Authority satisfactory evidence that the licence, medical certificate, and recency of experience are current.
 - j) Reissue. If the private pilot licence has expired, the applicant shall have received refresher training acceptable to the Authority and passed the private pilot skill test.

2.3.4.2 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE PPL – AEROPLANE CATEGORY

- (a) Experience.
 - (1) The applicant for a PPL(A) shall have completed not less than 55 hours of flight time, or 50 hours if completed during a course of approved training, as pilot of aeroplanes, appropriate to the class rating sought. The Authority 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 55 or 50 hours, as the case may be. Credit for such experience shall be limited to a total of 5 hours if completed under instruction in flight simulation training device approved by the Authority.
 - (2) The applicant shall have completed in aeroplanes not less than 10 hours of solo flight time under the supervision of an authorised 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.

- (3) The holder of pilot licences in other categories may be credited with 10 hours of the total flight time as PIC towards a PPL(A).
- (b) Flight Instruction.
 - (1) The applicant for a PPL(A) shall receive and log not less than 20 hours of dual instruction from an authorised instructor on the subjects listed in IS 2.3.4.2. These 20 hours may include 5 hours completed in a flight simulation training device. The 20 hours of dual instruction shall include at least 5 hours of solo cross-country flight time with at least one cross-country flight totaling not less than 270 km (150 NM) in the course of which full-stop landings at two different aerodromes shall be made.
 - (2) 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) Pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;
 - (ii) Aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
 - (iii) Control of the aeroplane by external visual reference;
 - (iv) Flight at critically slow airspeeds, recognition of, and recovery from, incipient and full stalls;
 - (v) Flight at critically high airspeeds, recognition of, and recovery from, spiral dives;
 - (vi) Normal and cross-wind take-offs and landings;
 - (vii) Maximum performance (short field and obstacle clearance take-offs, short-field landings);
 - (viii) Flight by reference solely to instruments, including the completion of a level 180 degrees turn;
 - (ix) Cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids;
 - (x) Emergency operations, including simulated aeroplane equipment malfunctions; and
 - (xi) Operations to, from and transmitting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology;
 - (xii) Basic instrument navigation skills;
 - (xiii) As further specified in IS 2.3.4.2.
- (c) The requirements for the skill test for the PPL(A) are included in IS 2.3.4.2.

2.3.4.3 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE PPL—HELICOPTER CATEGORY

- (a) Experience.
 - (1) The applicant for a PPL(H) shall have completed not less than 55 hours of flight time, or 50 hours if completed during a course of approved training, as a pilot of helicopters. The Authority 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 55 or 50 hours, as the case may be. Credit for such experience shall be limited to a total of 5 hours if completed under instruction in a flight simulation training device approved by the Authority.

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- (2) The applicant shall have completed in helicopter not less than 10 hours of solo flight time under the supervision of an authorised 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.
 - (3) The holder of pilot licences in other powered aircraft categories may be credited with 10 hours of the total flight time as PIC towards a PPL(H).
- (b) Flight Instruction.
- (1) The applicant for a PPL(H) shall receive and log not less than 20 hours of dual instruction from an authorised instructor on the subjects listed in IS 2.3.4.3. These 20 hours may include 5 hours completed in a flight simulation training device. The 20 hours of dual instruction shall include at least 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.
 - (2) 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) Recognise 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;
 - (vii) Take-offs and landings with minimum necessary power, maximum performance take-off and landing techniques, restricted site operations, quick stops;
 - (viii) Cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids including a flight of at least one hour;
 - (ix) Emergency operations, including simulated helicopter equipment malfunctions, autorotative approach and landing; and
 - (x) Operations to, from and transmitting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.
 - (xi) If the privileges of the PPL(H) are to be exercised at night, the applicant shall have received 4 hours dual instruction in helicopters in night flying, including take-offs, landings and 1 hour of navigation;
 - (xii) Basic instrument navigation skills.
- (c) The requirements for the skill test for the PPL(H) are included in IS 2.3.4.3.

2.3.4.4 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE PPL – POWERED-LIFT CATEGORY

- (a) Experience.
 - (1) The applicant for a PPL- Powered Lift shall have completed not less than 55 hours of flight time as pilot of powered lift. The Authority should determine whether such experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 55 hours.
 - (2) When the applicant has flight time as a pilot of aircraft in other categories, the Authority should determine whether such experience is acceptable and if so, the extent to which the flight time in item (a) may be reduced.
 - (3) The applicant shall have completed in a powered lift aircraft not less than 10 hours of solo flight time under the supervision of an authorised flight instructor, including five 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 not less than 20 hours dual instruction from an authorised instructor in at least the following areas:
 - (1) Recognise threat and error management;
 - (2) Pre-flight operations, including mass and balance determination, powered lift inspection and servicing;
 - (3) Aerodrome and traffic operations, collision avoidance precautions and procedures;
 - (4) Control of the powered lift by external visual reference;
 - (5) Ground manoeuvring and run-ups, hover and rolling take-offs and climb out, hover and rolling approach and landings – normal, out of wind and slopping ground;
 - (6) Take-offs and landings with minimum necessary power, maximum performance take-off and landing techniques, restricted site operations, quick stops;
 - (7) Cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour;
 - (8) 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; and
 - (9) Operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.
- (c) The requirements for the skill test for the PPL-powered-lift category are included in IS 2.3.4.4.

2.3.4.5 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE PPL—AIRSHIP CATEGORY

- (a) Experience. The applicant for a PPL- Airship shall have completed not less than 25 hours of flight time as pilot of airships including at least:
 - (1) Three hours of cross-country flight training in an airship with a cross-country flight totaling not less than 45 kilometres (25 NM);
 - (2) Five take-offs and five landings to a full stop at an aerodrome with each landing involving a flight in the traffic pattern of an aerodrome;

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- (3) Three hours of instrument time; and
 - (4) Five hours as pilot assuming the duties of the PIC under the supervision of the PIC.
 - (b) Flight Instruction. The applicant shall have received dual instruction from an authorised instructor in at least the following areas:
 - (1) Pre-flight operations, including mass and balance determination, airships inspections and servicing;
 - (2) Ground reference manoeuvres;
 - (3) Aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
 - (4) Techniques and procedures for the take-off, including appropriate limitations, emergency procedures and signals used;
 - (5) Control of the airships by external visual reference;
 - (6) Take-offs and landings and go-around;
 - (7) Maximum performance (obstacle clearance) take-offs;
 - (8) Flight by reference solely to instruments, including the completion of a level 180 degree turn;
 - (9) Navigation, cross-country flying using visual reference, dead reckoning and radio navigation aids;
 - (10) Emergency operations (recognition of leaks), including simulated airship equipment malfunctions; and
 - (11) Radiotelephony procedures and phraseology.
 - (c) The requirements for the skill test for the PPL—Airship are included in IS 2.3.4.5.

2.3.4.6 RESERVED

2.3.4.7 RESERVED

2.3.5 COMMERCIAL PILOT LICENCE

2.3.5.1 GENERAL REQUIREMENTS

- (a) Age. The applicant for a CPL shall be not less than 18 years of age.
- (b) Medical fitness. The applicant for a CPL shall hold a current Class 1 Medical Certificate issued under this Part.
- (c) Knowledge areas. The applicant for a CPL shall receive and log ground training from an authorised instructor on the following subjects appropriate to the privileges granted to the holder of a commercial pilot licence and appropriate to the category of aircraft to be included on the licence:
 - (1) Air law:
 - (i) Rules and regulations relevant to the holder of a CPL;
 - (ii) Rules of the air, appropriate air traffic services practices and procedures;
 - 2) Aircraft general knowledge;
 - (i) Principles of operation and functioning of powerplants, systems and instruments;

- (ii) Operating limitations of the appropriate category of aircraft and powerplants, relevant operational information from the flight manual or other appropriate document;
 - (iii) Use and serviceability checks of equipment and systems of appropriate aircraft;
 - (iv) Maintenance procedures for airframes, systems and powerplants of appropriate aircraft;
 - (v) For helicopters and powered-lift, transmission (power-trains) where applicable; and
 - (vi) For airships and balloons, physical properties and practical application of gases.
- (3) Flight performance, planning and loading:
 - (i) Effects of loading and mass distribution on aircraft handling, flight characteristics and performance, mass and balance calculations;
 - (ii) Use and practical application of take-off or launching, landing and other performance data;
 - (iii) 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; and
 - (iv) In the case of helicopter and powered-lift, effects of external loading.
- (4) Human performance:
 - (i) Human performance relevant to the appropriate aircraft type; and
 - (ii) Principles of threat and error management.
- (5) Meteorology:
 - (i) Interpretation and application of aeronautical meteorological reports, charts and forecasts, use of, and procedures for obtaining, meteorological information, pre-flight and in-flight; altimetry;
 - (ii) Aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the moment 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; and
 - (iii) Causes, recognition and effects of icing, frontal zone penetration procedures, hazardous weather avoidance.
- (6) Navigation:
 - (i) Air navigation, including the use of aeronautical charts, instruments and navigation aids;
 - (ii) Understanding of the principles and characteristics of appropriate navigation systems; and
 - (iii) Operation of air borne equipment.
 - (iv) In the case of airships:
 - 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, en-route, approach and landing phases of flight, identification of radio navigation aids; and

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- C) Principles and characteristics of self-contained and external referenced navigation systems, operations of airborne equipment.
- (7) Operational procedures:
- (i) Application of threat and error management to operational performance;
 - (ii) Use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
 - (iii) Altimeter setting procedures;
 - (iv) Appropriate precautionary and emergency procedures;
 - (v) Operational procedures for carriage of freight; potential hazards associated with dangerous goods;
 - (vi) Requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft; and
 - (vii) In the case of the helicopter, and if applicable powered-lift, settling with power, ground resonance; retreating blade stall; dynamic roll-over and other operational hazards; safety procedures, associated with flight under VFR.
- (8) Principles of flight:
- (i) Principles of flight relating to the appropriate category of aircraft.
- (9) Radiotelephony:
- (i) Communication procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure; and
 - (ii) As further specified in IS 2.3.5.
- (d) Knowledge testing. The applicant for the CPL shall:
- (1) Have received an endorsement for the knowledge test from an authorised instructor who:
 - (i) Conducted the training on the knowledge subjects; and
 - (ii) Certifies that the person is prepared for the required knowledge test.
 - (2) Pass the required knowledge test on the knowledge subjects listed in IS 2.3.5.
- (e) Experience and flight instruction. An applicant for a CPL shall have completed the experience and flight instruction requirements appropriate to the aircraft category as specified in this Part.
- (f) Skill. The applicant for a CPL shall:
- (1) Have received an endorsement from an authorised instructor who certifies that the person is prepared for the required skill test.
 - (2) Have demonstrated by passing a skill test the ability to perform as PIC of an aeroplane, the areas of operation described in IS 2.3.5 with a degree of competency appropriate to the privileges granted to the holder of a CPL, and to
 - (i) Operate the aeroplane within its limitations;
 - (ii) Complete all manoeuvres with smoothness and accuracy;
 - (iii) Exercise good judgment and airmanship;
 - (iv) Apply aeronautical knowledge; and
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- (v) Maintain control of the aeroplane at all times in a manner such that the successful outcome of a procedure or manoeuvre is never seriously in doubt.
- (g) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of a CPL shall be:
 - (1) To exercise all the privileges of the holder of a PPL in an aircraft within the appropriate aircraft category;
 - (2) To act as PIC in an aircraft within the appropriate aircraft category engaged in operations other than commercial air transportation;
 - (3) To act as PIC in commercial air transportation in an aircraft within the appropriate aircraft category certificated for single-pilot operation;
 - (4) To act as co-pilot in aircraft within the appropriate aircraft category required to be operated with a co-pilot; and
 - (5) For the airship category, to pilot an airship under IFR.
- (h) Validity. Subject to compliance with the requirements specified in this Part, the validity period of the licence is five years.
- (i) Renewal. A commercial pilot licence that has not expired may be renewed for an additional five years if the holder presents to the Authority satisfactory evidence that the licence, medical certificate, and recency of experience are current.
- (j) Reissue. If the commercial pilot licence has expired, the applicant shall have received refresher training acceptable to the Authority and passed the private pilot skill test.

2.3.5.2 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE CPL—AEROPLANE CATEGORY

- (a) Experience.
 - 1) The applicant for a CPL(A) shall have completed not less than 200 hours of flight time, or 150 hours if completed during a CAA approved training course provided for in an Approved Training Organisation under Part 3, as a pilot of aeroplanes, of which 10 hours may have been completed in a flight simulation training device.
 - 2) The applicant shall have completed in aeroplanes not less than:
 - (i) 100 hours as PIC or, in the case of a course of approved training, 70 hours as PIC;
 - (ii) 20 hours of cross-country flight time as PIC 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;
 - (iii) 10 hours of instrument instruction time of which not more than 5 hours may be instrument ground time;
 - (iv) 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 PIC.
 - 3) The holder of a pilot licence in another category may be credited towards the 200 hours of flight time as follows:
 - (i) 10 hours as PIC in a category other than helicopters; or
 - (ii) 30 hours as PIC holding a PPL(H) on helicopters; or

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- (iii) 100 hours as PIC holding a CPL(H) on helicopters.
 - (4) The applicant for a CPL(A) shall hold a PPL(A) issued under this Part.
 - (b) Flight instruction.
 - (1) The applicant for a CPL(A) shall receive and log not less than 25 hours of dual instruction from an authorised instructor. These 25 hours may include 5 hours completed in a flight simulation training device.
 - (2) 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) Recognise 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; recognition of, and recovery from, incipient and full stalls;
 - (vi) Flight with asymmetrical power for multi-engine class or type ratings;
 - (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 manoeuvres 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 malfunctions;
 - (xiii) Operations to, from and transmitting controlled aerodromes, compliance with air traffic services procedures; and
 - (xiv) Communication procedures and phraseology; and
 - (xv) Upset prevention and recovery training in actual flight.
 - (3) If the privileges of the CPL(A) are to be exercised at night, the applicant shall have received 4 hours dual instruction in aeroplanes in night flying, including take-offs, landings and 1 hour of navigation.
 - (c) Skill test. The requirement for the skill test for the commercial pilot licence—aeroplane category are included in IS 2.3.5.2.

2.3.5.3 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE CPL—HELICOPTER CATEGORY

- (a) Experience.

- (1) The applicant for a CPL(H) licence shall have completed not less than 150 hours of flight time, or 100 hours if completed during an integrated course of approved training provided for in an Approved Training Organisation under Part 3, as a pilot of helicopters, of which 10 hours may have been completed in a flight simulation training device.
 - (2) The applicant shall have completed in helicopters not less than:
 - (i) 35 hours as PIC;
 - (ii) 10 hours of cross-country flight time as PIC including a cross-country flight in the course of which full-stop landings at two different points shall be made;
 - (iii) 10 hours of instrument instruction time of which not more than 5 hours may be instrument ground time;
 - (iv) 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 PIC.
 - (3) The holder of a pilot licence in another category may be credited towards the 150 hours of flight time as follows:
 - (i) 20 hours as PIC holding a PPL(A) in aeroplanes; or
 - (ii) 50 hours as PIC holding a CPL (A) in aeroplanes.
 - (4) The applicant for a CPL(H) shall hold a PPL(H) under this Part.
- (b) Flight instruction.
- (1) The applicant for a CPL(H) shall have received and log not less than 30 hours of dual instruction in helicopters from an authorised flight instructor on the subjects listed in IS 2.3.5.3.
 - (2) 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) Recognise 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 reckoning and radio navigation aids, diversion procedures;

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- (xi) Abnormal and emergency procedures, including simulated helicopter equipment malfunctions, autorotative approach and landing; and
 - (xii) Operations to, from and transmitting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology;
 - (xiii) As further specified in IS 2.3.5.3.
 - (3) If the privileges of the licence are to be exercised at night, the applicant shall have received dual instruction in helicopters in night flying, including take-offs, landings and navigation.
 - (c) Skill test. The requirement for the skill test for the commercial pilot licence—helicopter category are included in IS 2.3.5.3.

2.3.5.4 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE CPL—POWERED-LIFT CATEGORY

- (a) Experience.
 - (1) The applicant for a CPL powered-lift category shall have completed not less than 200 hours of flight time, or 150 hours if completed during a course of approved training provided for in an Aviation Training Organisation under Part 3, as a pilot of aircraft. The Authority may determine whether experience as a pilot under instruction in a flight simulation training device is acceptable as part of the total flight time of 200 hours or 150 hours, as the case may be.
 - (2) The applicant shall have completed in a powered-lift aircraft not less than:
 - (i) 50 hours as pilot in command;
 - (ii) 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;
 - (iii) 10 hours of instrument instruction of which not more than 5 hours may be instrument ground time; and
 - (iv) If the privileges are to be exercised at night, 5 hours of night flight including 5 take-offs and landings as PIC.
 - (3) The holder of a pilot licence in another category may be credited towards the 150 hours of flight time as follows:
 - (i) 20 hours as PIC holding a PPL(A) in aeroplanes; or
 - (ii) 20 hours as PIC holding a PPL(H) in helicopters; or
 - (iii) 50 hours as PIC holding a CPL(A) in aeroplanes; or
 - (iv) 50 hours as PIC holding a CPL(H) in helicopters.
- (b) Flight instruction. The applicant shall have received dual instruction in powered-lift from an authorised instructor in at least the following areas to the level of performance required for the commercial pilot:
 - (1) Recognise and manage threats and errors to minimise their negative effects;
 - (2) Pre-flight operations, including mass and balance determination, powered-lift inspection and servicing;
 - (3) Aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
 - (4) Control of the powered-lift by external visual reference;

- (5) Ground manoeuvring and run-ups, hover and rolling take-offs and climb out, hover and rolling approach and landings – normal, out of wind and slopping ground, steep approaches;
 - (6) Take-offs and landings with minimum necessary power, maximum performance take-off and landing techniques, restricted site operations, quick stops;
 - (7) Hovering out of ground effect, operations with external load, if applicable, flight at high altitude;
 - (8) Basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;
 - (9) Cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour;
 - (10) Emergency operations, including simulated powered-lift equipment malfunctions, where applicable, power of reversion to autorotation, autorotative approach, transmission and interconnect driveshaft failure; and
 - (11) Operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.
- (c) Skill test. The requirement for the skill test for the commercial pilot licence—powered-lift category are included in IS 2.3.5.4.

2.3.5.5 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE CPL – AIRSHIP CATEGORY

- (a) Experience.
- (1) The applicant shall have completed not less than 200 hours of flight time as a pilot.
 - (2) The applicant shall have completed not less than:
 - (i) 50 hours as a pilot in airships;
 - (ii) 30 hours as PIC or PIC under supervision in airships, to include not less than:
 - (A) 10 hours of cross-country flight time; and
 - (B) 10 hours of night flight;
 - (iii) 40 hours of instrument time, of which 20 hours shall be in flight and 10 hours in flight in airships; and
 - (iv) 20 hours of flight training in airships on the areas of operation listed in item (b) below.
- (b) Flight instruction. The applicant shall have received dual instruction in airships from an authorised instructor in at least the following areas to the level of performance required for the commercial pilot:
- (1) Recognise and manage threats and errors;
 - (2) Pre-flight operations, including mass and balance determination, airships inspection and servicing;
 - (3) Aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
 - (4) Techniques and procedures for the take-off, including appropriate limitations, emergency procedures and signals used;
 - (5) Control of the airships by external visual reference;
 - (6) Recognition of leak;
 - (7) Normal take-offs and landings;

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- (8) Maximum performance (short field and obstacle clearance) take-offs, short-field landings,
 - (9) Flight under IFR;
 - (10) Cross-country flying using visual reference, dead reckoning and, where applicable, radio navigation aids;
 - (11) Emergency operations, including simulated airship equipment malfunctions;
 - (12) Operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
 - (13) Communications procedures and phraseology.
- (c) Skill test. The requirement for the skill test for the commercial pilot licence—airship category are included in IS 2.3.5.5.

2.3.5.6 RESERVED

2.3.5.7 RESERVED

2.3.6 MULTI-CREW PILOT LICENCE—AEROPLANE

2.3.6.1 GENERAL REQUIREMENTS

- (a) Age. The applicant for the MPL shall be not less than 18 years of age.
- (b) Medical fitness. The applicant for the MPL shall hold a current Class 1 Medical Certificate issued under this Part.
- (c) Knowledge. The applicant for the MPL shall meet the requirements specified in 2.3.7.1 (c) for the ATPL appropriate to the aeroplane category.
- (d) Knowledge testing. The applicant for an MPL shall
 - (1) Have received an endorsement for the knowledge test from an authorised instructor who:
 - (i) Conducted the training on the knowledge subjects; and
 - (ii) Certifies that the person is prepared for the required knowledge test.
 - (2) Pass the required written knowledge test on the knowledge areas specified in 2.3.7.1 (c).
- (e) Experience and flight instruction. The applicant shall have completed the experience and flight instruction requirements appropriate to the aircraft category as specified in this Part.
- (f) Skill. The applicant for an MPL shall demonstrate the skills required for fulfilling all the required competency units in IS: 2.3.6.2 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 have been continuously assessed in the training progress of acquiring the following skills:
 - (1) recognize and manage threats and errors
 - (2) 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;
 - (3) operate the aeroplane in the mode of automation appropriate to the phase of flight and to maintain awareness of the active mode of automation;
 - (4) perform, in an accurate manner, normal, abnormal and emergency procedures in all phases of flight; and

- (5) 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 checklists.
- (g) Privileges. The privileges of the holder of a multi-crew pilot licence shall be as follows:
 - (1) Subject to compliance with the requirements specified in this Part, 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 pilot licence in the aeroplane category provided the private pilot experience requirements of paragraph 2.3.5.2 have been met;
 - (ii) to exercise the privileges of the instrument rating in a multi-crew operation; and
 - (iii) to act as co-pilot of an aeroplane required to be operated with a co-pilot.
 - (2) 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 by reference solely to instruments and shall have met the instrument rating skill requirement specified in 2.3.8.2 appropriate to the aeroplane category.
 - (3) Before exercising the privileges of a commercial pilot licence in a single-pilot operation in aeroplanes, the licence holder shall have:
 - (i) completed in aeroplanes 70 hours, either as pilot-in-command, or made up of not less than 10 hours as pilot-in-command and the necessary additional flight time as pilot-in-command under supervision;
 - (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 at two different aerodromes shall be made; and
 - (iii) met the requirements for the commercial pilot licence specified in 2.3.5.1 (c), 2.3.5.1 (f), 2.3.5.2 (a)(2) (with the exception of (i)) appropriate to the aeroplane category.
- (h) Validity. Subject to compliance with the requirements specified in this Part, the validity period of the licence is 5 years.
- (i) Renewal. A multi-crew pilot licence that has not expired may be renewed for an additional five years if the holder presents to the Authority satisfactory evidence that the licence, medical certificate, and recency of experience are current.
- (j) Reissue. If the multi-crew pilot licence has expired, the applicant shall have received refresher training acceptable to the Authority and passed the multi-crew pilot skill test.

2.3.6.2 EXPERIENCE, FLIGHT INSTRUCTION, AND SKILL TEST FOR THE MULTI-CREW PILOT LICENCE—AEROPLANE CATEGORY

- (a) Experience. 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.
 - (1) The flight experience in actual flight shall include at least the experience for a PPL(A) at 2.3.4.2, upset prevention and recovery training, night flying and flight by reference solely to instruments.

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- (2) In addition to meeting the provisions of 2.3.6.2(a)(1), the applicant shall have gained, in a turbine-powered aeroplane certificated for operations with a minimum crew of at least two pilots, or in a flight simulation training device approved for that purpose by the Authority, the experience necessary to achieve the advance level of competency defined in IS: 2.3.6.2.
 - (b) Flight instruction. The applicant shall have received dual flight instruction in all the competency units specified in IS: 2.3.6.2 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.
 - (c) Skill test. The requirement for the skill test for the multi-crew pilot licence—aeroplane category are included in IS 2.3.6.2.

2.3.7 AIRLINE TRANSPORT PILOT LICENCE

2.3.7.1 GENERAL REQUIREMENTS

- (a) Age. The applicant for an ATPL shall be not less than 21 years of age.
- (b) Medical fitness. The applicant for an ATPL shall hold a current Class 1 Medical Certificate issued under this Part.
- (c) Knowledge. The applicant for an ATPL shall receive and log ground training from an authorised instructor on the following subjects appropriate to the privileges of the ATPL and to the category of aircraft intended to be included on the licence:
 - (1) Air law:
 - (i) Rules and regulations relevant to the holder of an ATPL, rules of the air, appropriate air traffic services practices and procedures;
 - (2) Aircraft general knowledge:
 - (i) General characteristics and limitations of electrical, hydraulic, pressurisation and other aircraft systems, flight control systems, including autopilot and stability augmentation;
 - (ii) Principles of operation, handling procedures and operating limitations of aircraft powerplants, effects of atmospheric conditions on engine performance, relevant operational information from the flight manual or other appropriate document;
 - (iii) Operating procedures and limitations of appropriate aircraft, effects of atmospheric conditions on aircraft performance in accordance to the relevant operational information from the flight manual;
 - (iv) Use and serviceability checks of equipment and systems of the relevant category of aircraft;
 - (v) 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;
 - (vi) Maintenance procedures for airframes, systems and powerplants of appropriate aircraft;
 - (vii) For helicopter, and if applicable, powered-lift transmission (power-trains);
 - (3) Flight performance, planning and loading:
 - (i) Effects of loading and mass distribution on aircraft handling, flight characteristics and performance, mass and balance calculations;

- (ii) Use and practical application of take-off, landing and other performance data, including procedures for cruise control;
 - (iii) 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;
 - (iv) In the case of helicopter or powered-lift, effects of external loading on handling;
- (4) Human performance:
 - (i) Human performance including principles of threat error management;
- (5) Meteorology:
 - (i) 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;
 - (ii) Aeronautical meteorology, climatology of relevant areas in respect of the elements having an effect upon aviation, the moment 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;
 - (iii) Causes, recognition and effects of icing, frontal zone penetration procedures, hazardous weather avoidance;
 - (iv) In the case of aeroplane and powered-lift, practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts, jetstreams;
- (6) Navigation:
 - (i) Air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems, specific navigation requirements for long-range flights;
 - (ii) Use, limitation and serviceability of avionics and instruments necessary for the control and navigation of aircraft;
 - (iii) Use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight, identification of radio navigation aids;
 - (iv) Principles and characteristics of self-contained and external-referenced navigation systems, operation of airborne equipment;
- (7) Operational procedures:
 - (i) Application of threat and error management to operational performance;
 - (ii) Interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
 - (iii) Precautionary and emergency procedures, safety practices;
 - (iv) Operational procedures for carriage of freight and dangerous goods;
 - (v) Requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;
 - (vi) In the case of helicopter, and if applicable, powered-lift, settling with power; ground resonance, retreating blade stall, dynamic roll-over and other operational hazards, safety procedures, associated with flight under VFR;
- (1) Principles of flight:

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- (i) Principles of flight relating to the appropriate aircraft category;
 - (2) Radiotelephony
 - (i) Communication procedures and phraseology, action to be taken in case of communication failure;
 - (d) Knowledge testing. The applicant for the ATPL shall:
 - (1) Have received an endorsement for the knowledge test from an authorised instructor who:
 - (i) Conducted the training on the knowledge subjects; and
 - (ii) Certifies that the person is prepared for the required knowledge test; and
 - (2) Pass the required written knowledge test on the knowledge subjects listed in item (2) above.
 - (e) Experience and flight instruction. An applicant for an ATPL shall have completed the experience and flight instruction requirements appropriate to the aircraft category as specified in this Part.
 - (f) Skill. The applicant for an ATPL shall:
 - (1) Have received an endorsement from an authorised instructor who certifies that the person is prepared for the required skill test; and
 - (2) Have demonstrated by passing a skill test the ability to perform, as PIC of an aircraft of the appropriate category required to be operated with a co-pilot, the following procedures and manoeuvres:
 - (i) Pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;
 - (ii) Normal flight procedures and manoeuvres during all phases of flight;
 - (iii) Abnormal and emergency procedures and manoeuvres related to failures and malfunctions of equipment, such as powerplant, systems and airframe;
 - (iv) Procedures for crew incapacitation and crew coordination, including allocation of pilot tasks, crew cooperation and use of checklists; and
 - (v) In the case of the aeroplane and powered-lift, procedures and manoeuvres for instrument flight as described in 2.3.7, including simulated engine failure.
 - (vi) In the case of aeroplane, the applicant shall have demonstrated the ability to perform the procedures and manoeuvres described in this paragraph as PIC in a multi-engine aircraft.
 - (3) Have demonstrated by passing a skill test, the ability to perform the areas of operation described in IS 2.3.7.2, IS 2.3.7.3, or IS 2.3.7.4, with a degree of competency appropriate to the privileges granted to the holder of an ATPL, and to:
 - (i) Operate the aeroplane within its limitations recognise and manage threats and errors;
 - (ii) Complete all manoeuvres with smoothness and accuracy smoothly and accurately manually control the aircraft within its limitations at all times, such that the successful outcome of a procedure or manoeuvre is assured;
 - (iii) Operate the aircraft in the mode of automation appropriate to the phase of flight and to maintain awareness of the active mode of automation;
 - (iv) Perform, in an accurate manner, normal, abnormal and emergency procedures in all phases of flight;

- (v) Exercise good judgment and airmanship, to include structured decision making and the maintenance of situational awareness; and
 - (vi) Communicate effectively with the other flight crewmembers 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 and use of checklists.
- (g) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of an ATPL shall be:
 - (1) To exercise all the privileges of the holder of a PPL and CPL of an aircraft within the appropriate aircraft category and class, if applicable;
 - (2) In the case of the aeroplane and powered-lift categories, to exercise the privileges of the holder of an IR; and
 - (3) To act as PIC and co-pilot in commercial air transportation in an aircraft of the appropriate category, and class if applicable.
- (h) Validity. Subject to compliance with the requirements specified in this Part, the validity period of the licence is 5 years. For renewal or reissue, see 2.2.1.7.
- (i) Renewal. An airline transport pilot licence that has not expired may be renewed for an additional five years if the holder presents to the Authority satisfactory evidence that the licence, medical certificate, and recency of experience and proficiency are current.
- (j) Reissue. If the airline transport pilot licence has expired, the applicant shall have received refresher training acceptable to the Authority and passed the airline transport pilot skill test.

2.3.7.2 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE ATPL—AEROPLANE CATEGORY

- (a) Experience.
 - 1) The applicant for an ATPL (A) shall have completed not less than 1500 hours of flight time as a pilot of aeroplanes of which a maximum of 100 hours may have been completed in a flight simulation training device. The applicant shall have completed in aeroplanes not less than:
 - (i) 250 hours, either as PIC, or made up by not less than 100 hours as PIC and the necessary additional flight time as co-pilot performing, under the supervision of the PIC, the duties and functions of a PIC, provided that the method of supervision employed is acceptable to the Authority;
 - (ii) 200 hours of cross-country flight time, of which not less than 100 hours shall be as PIC or as co-pilot performing, under the supervision of the PIC, the duties and functions of a PIC, provided that the method of supervision employed is acceptable to the Authority;
 - (iii) 75 hours of instrument time, of which not more than 30 hours may be instrument ground time; and
 - (iv) 100 hours of night flight as PIC or as co-pilot.
 - 2) Holders of a CPL(H) will be credited with 50% of their helicopter flight time as PIC towards the flight time required in (1).
 - 3) The applicant shall have completed a CRM course on the subjects listed in IS 2.3.7.2.
 - 4) The applicant for an ATPL(A) shall be the holder of a CPL(A) with instrument and multi-engine rating issued under this Part.

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- (b) Flight instruction. The applicant for an ATPL(A) shall have received the dual flight instruction required for the issue of the CPL and the IR.
 - (c) Skill test. The requirement for the skill test for the ATPL—aeroplane category are included in IS 2.3.7.2.

2.3.7.3 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE ATPL—HELICOPTER CATEGORY

- (a) Experience.
 - (1) The applicant for an ATPL (H) shall have completed not less than 1000 hours of flight time as a pilot of helicopters of which a maximum of 100 hours may have been completed in a flight simulator. The applicant shall have completed in helicopters not less than:
 - (i) 250 hours, either as PIC, or made up by not less than 100 hours as PIC and the necessary additional flight time as co-pilot performing, under the supervision of the PIC, the duties and functions of a PIC, provided that the method of supervision employed is acceptable to the Authority;
 - (ii) 200 hours of cross-country flight time, of which not less than 100 hours shall be as PIC or as co-pilot performing, under the supervision of the PIC, the duties and functions of a PIC, provided that the method of supervision employed is acceptable to the Authority;
 - (iii) 30 hours of instrument time, of which not more than 10 hours may be instrument ground time; and
 - (iv) 50 hours of night flight as PIC or as co-pilot.
 - (2) Holders of a CPL(A) will be credited with 50 percent of their aeroplane flight time as PIC towards the flight time required in (1).
 - (3) The applicant shall have completed a CRM course on the subjects listed in IS 2.3.7.3.
 - (4) The applicant for an ATPL(H) shall be the holder of a CPL(H) issued under this Part.
- (b) Flight instruction. The applicant for an ATPL(H) shall have received the dual flight instruction required for the issue of the CPL.
- (c) Skill test. The requirement for the skill test for the ATPL—helicopter category are included in IS 2.3.7.3.

2.3.7.4 EXPERIENCE, FLIGHT INSTRUCTION AND SKILL TEST FOR THE ATPL—POWERED-LIFT CATEGORY

- (a) Experience.
 - (1) The applicant for an ATPL- powered-lift category shall have completed not less than 1500 hours of flight time as a pilot of powered-lift. The Authority may determine whether experience completed under instruction in a flight simulator is acceptable as part of the total time of 1500 hours. The applicant shall have completed in powered-lift not less than:
 - (i) 250 hours, either as PIC, or made up by not less than 100 hours as PIC and the necessary additional flight time as co-pilot performing, under the supervision of the PIC, the duties and functions of PIC, in a method acceptable to the Authority.
 - (ii) 100 hours of cross-country flight time, of which not less than 50 hours shall be as PIC or as co-pilot performing under supervision of the PIC in a method acceptable to the Authority.

- (iii) 75 hours of instrument time, of which not more than 30 hours may be instrument ground time.
 - (iv) 25 hours of night time as PIC or co-pilot.
- (2) The Authority may determine if pilot flight time in other aircraft categories may be credited toward meeting the 1500-hour flight time in item (1) above.
- (3) The applicant for an ATPL powered-lift shall be the holder of a CPL powered-lift issued under this Part.
- (b) Flight instruction. The applicant for an ATPL powered-lift category shall have received the dual flight instruction required for the issue of the CPL powered lift category and for the issue of the instrument rating.
- (c) Skill test. The requirements for the skill test for the ATPL—powered lift category are included in IS 2.3.7.4.

2.3.8 INSTRUMENT RATING

2.3.8.1 GENERAL REQUIREMENTS

- (a) Age. The applicant for an IR shall be not less than 17 year of age.
- (b) Medical fitness. The applicant for an IR shall hold either a Class 1 or 2 medical certificate issued under this Part as appropriate the level of licence held. The applicant for an IR holding a PPL shall have established his/her hearing acuity on the basis of compliance with the hearing requirements for the issue of a Class 1 Medical Certificate.
- (c) Knowledge. The applicant for an IR shall receive and log ground training from an authorised instructor on the following subjects:
 - (1) Air law:
 - (i) Rules and regulations relevant to flight under IFR, related air traffic services practices and procedures.
 - (2) Aircraft general knowledge for the aircraft category being sought:
 - (i) Use, limitation and serviceability of avionics, electronic devices and instruments necessary for the control and navigation of aeroplanes under IFR and in instrument meteorological conditions; use and limitations of autopilot.
 - (ii) Compasses, turning and acceleration errors, gyroscopic instruments, operational limits and precession effects, practices and procedures in the event of malfunctions of various flight instruments.
 - (3) Flight performance and planning for the aircraft category being sought:
 - (i) Pre-flight preparations and checks appropriate to flight under IFR.
 - (ii) Operational flight planning, preparation and filing of air traffic services flight plans under IFR, altimeter setting procedures.
 - (4) Human performance for the aircraft category being sought:
 - (i) Human performance relevant to instrument flight in aircraft.
 - (ii) Principles of threat and error management.
 - (5) Meteorology for the aircraft category being sought:

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- (i) Application of aeronautical meteorology, interpretation and use of reports, charts and forecasts, codes and abbreviations, use of, and procedures for obtaining, meteorological information; altimetry.
 - (ii) Causes, recognition and effects of icing, frontal zone penetration procedures, hazardous weather avoidance.
 - (iii) In the case of helicopter and powered-lift, effects of rotor icing.
 - (6) Navigation for the aircraft category being sought
 - (i) Practical air navigation using radio navigation aids.
 - (ii) Use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids.
 - (7) Operational procedures for the aircraft category being sought:
 - (i) Application of threat and error management to operational principles.
 - (ii) 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.
 - (iii) Precautionary and emergency procedures, safety practices associated with flight under IFR, obstacle clearance criteria.
 - (8) Radiotelephony:
 - (i) Communication procedures and phraseology as applied to aircraft operations under IFR, action to be taken in case of communication failure.
 - (d) Knowledge testing. An applicant for an IR shall:
 - (1) Have received an endorsement for the knowledge test from an authorised instructor who:
 - (i) Conducted the training on the knowledge subjects.
 - (ii) Certifies that the person is prepared for the required knowledge test.
 - (2) Pass the required knowledge test on the knowledge subjects listed in item (c) above.
 - (e) Experience and flight instruction. An applicant for an IR shall have completed the experience and flight instruction requirements appropriate to the aircraft category as specified in this Part.
 - (f) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of an IR shall be to pilot an aircraft of the appropriate category under IFR. Before exercising the privileges on multi-engine aircraft, the holder of the rating shall have complied with the requirements of (g)(3).
 - (g) Validity. Subject to compliance with the requirements specified in this Part, the validity period of an IR is 1 year.
 - (h) Renewal:
 - (1) For the renewal of a single-engine instrument rating the applicant shall within the preceding 12 calendar months, complete a proficiency check on the subjects listed in IS 2.3.8.2.
 - (2) For the renewal of a multi-engine instrument rating the applicant shall within the preceding 12 calendar months, complete a proficiency check on the subjects listed in IS 2.3.8.2.
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- (3) If a pilot takes the proficiency check required in this section in the calendar month before or the calendar month after the month in which it is due, the pilot is considered to have taken it in the month in which it was due for the purpose of computing when the next proficiency check is due.
- (i) Re-issue. If the instrument rating has been expired, the applicant shall:
 - (1) Have received refresher training from an authorised instructor with an endorsement that the person is prepared for the required skill test; and
 - (2) Pass the required skill test on the subjects listed in IS 2.3.8.2.

Note: The instrument rating is included in the ATPL (A) and the CPL(AS).

2.3.8.2 EXPERIENCE, FLIGHT INSTRUCTION, SKILL TEST AND PROFICIENCY CHECK FOR THE IR

- (a) Experience.
 - (1) The applicant for an IR shall hold a pilot licence with an aircraft category, and class rating if applicable, for the instrument rating sought.
 - (2) The applicant shall have completed not less than:
 - (i) 50 hours of cross-country flight time as PIC of aircraft in categories acceptable to the Authority, of which not less than 10 hours shall be in the aircraft category being sought; and
 - (ii) 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. The ground time shall be under the supervision of an authorised instructor.
- (b) Flight instruction.
 - (1) The applicant for an IR shall have not less than 10 hours of the instrument flight time required in (e)(2)(ii) while receiving and logging dual instruction in aircraft from an authorised flight instructor.
 - (2) 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 and navigation;
 - (D) Holding procedures;
 - (E) Instrument approaches to specified minima;
 - (F) Missed approach procedures; and
 - (G) Landings from instrument approaches;

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- (iv) In flight manoeuvres and particular flight characteristics.
 - (3) If the privileges of the instrument rating are to be exercised on multi-engine aircraft, the applicant shall have received dual instrument flight instruction in such an aircraft from an authorised flight instructor. The instructor shall ensure that the applicant has operational experience in the operation of the aircraft solely by reference to instruments with one engine inoperative or simulated inoperative.
 - (c) Skill. The applicant for an IR shall:
 - (1) Have received an endorsement from an authorised instructor who certifies that the person is prepared for the required skill test.
 - (2) Have demonstrated by passing a skill test the ability to perform the areas of operation described in IS 2.3.8.2 with a degree of competency appropriate to the privileges granted to the holder of an IR and to:
 - (i) Recognise 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;
 - (vi) Maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured;
 - (vii) Understand and apply crew coordination and incapacitation procedures; and
 - (viii) Communicate effectively with the other flight crewmembers.
 - (3) Have demonstrated by passing a skill test the ability to operate multi-engine aircraft solely by reference to instruments with one engine inoperative, or simulated inoperative, described in IS 2.3.8.2, if the privileges of the instrument rating are to be exercised on such aircraft.
 - (d) The skill test and proficiency check for the instrument rating is included in IS 2.3.8.2.

2.3.9 INSTRUCTORS FOR PILOT LICENSING

2.3.9.1 GENERAL REQUIREMENTS

- (a) Applicability.
 - (1) This Section prescribes the requirements for the issuance of instructor licences, ratings or authorisations, the conditions under which those ratings and authorisations are necessary, and the privileges and limitations on those ratings and authorisations.
 - (2) All instructors shall read, speak, write and understand the English language as required.
 - (3) The following instructor licences, ratings and authorisations are issued under this part:
 - (i) Flight Instructor licence;
 - (ii) Ground Instructor licence, with basic, advanced and instrument ratings; and
 - (iii) Instructor Authorisation for Flight Simulation Training.

2.3.9.2 FLIGHT INSTRUCTOR LICENCE REQUIREMENTS, SKILL TEST AND PROFICIENCY CHECK

- (a) Age. The applicant for a flight instructor licence shall be of the appropriate age for the underlying licence to be held.
- (b) Medical fitness. The applicant for a flight instructor licence shall have a Class 1 medical certificate.
- (c) Knowledge.
 - (1) Receive and log training from an authorised instructor and pass a flight instructor knowledge test on:
 - (i) The aeronautical knowledge areas for a student pilot authorisation, private, commercial and airline transport pilot licences applicable to the aircraft category for which flight instructor privileges are sought; and
 - (ii) The aeronautical knowledge areas for the instrument rating applicable to the category for which instrument flight instructor privileges are sought.
 - (2) Meet the requirements for fundamentals of knowledge instruction as listed in 2.2.6
- (d) Experience. The applicant shall hold a licence with the aircraft category, and if applicable class and/or type rating, that is appropriate to the flight instructor rating sought as follows:
 - (1) For an instructor licence in the aeroplane category – hold either a CPL or ATPL aeroplane category with instrument rating and appropriate class and/or type ratings;
 - (2) For an instructor licence in the powered-lift category – hold either a CPL or ATPL powered-lift category with instrument rating and as applicable, class or type rating;
 - (3) For an instructor licence in the helicopter category – hold either a CPL or ATPL helicopter category and any applicable class or type rating;
 - (4) For an instructor licence in the airship category – hold a CPL airship category and any applicable ratings;
 - (5) For an instructor instrument rating licence – hold an IR in the appropriate category of aircraft.
- (e) Flight instruction. Receive flight instruction from an authorised instructor in the areas of:
 - (1) Flight instructional techniques including demonstration, student practices, recognition and correction of common student errors; and
 - (2) Have practised instructional techniques in those flight manoeuvres and procedures in which it is intended to provide flight instruction.
- (f) Skill.
 - (1) Receive a logbook endorsement from an authorised instructor to indicate that the applicant is proficient on the areas of operation listed in item 2 below, appropriate to the flight instructor rating sought;
 - (2) Pass the required skill test that is appropriate to the flight instructor licence sought on the areas of operation in IS 2.3.9.2 in an:
 - (i) Aircraft that is representative of the category of aircraft, and if applicable class and/or type, for the aircraft rating sought; or
 - (ii) Approved flight simulation training device that is representative of the category, and if applicable class and/or type of aircraft for the licence and rating sought, and used in accordance with an approved course at an ATO certified under Part 3.

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- (g) Privileges, limitations and qualifications.
- (1) A flight instructor is authorised within the limitations of that person's flight instructor licence, and pilot licence and ratings, to give training and endorsements that are required for, and relate to:
- (i) A student pilot authorisation;
 - (ii) A pilot licence;
 - (iii) A flight instructor licence;
 - (iv) A ground instructor licence;
 - (v) An aircraft category rating;
 - (vi) An aircraft class rating;
 - (vii) An instrument rating;
 - (viii) A proficiency check or recency of experience requirement;
 - (ix) A knowledge test; and
 - (x) A skill test.
- (h) Validity. Subject to compliance with the requirements specified in this Part, the validity period of instructor licence is 2 years.
- (i) Renewal. A flight instructor licence that has not expired may be renewed for an additional 24 calendar months if the holder:
- (1) Passes a skill test for:
- (i) Renewal of the flight instructor licence; or
 - (ii) An additional flight instructor rating; or
- (2) Presents to an Authority inspector:
- (i) A record of training students that shows during the preceding 24 calendar months the flight instructor has endorsed at least five students for a skill test for a licence or rating, and at least 80 percent of those students passed that test on the first attempt;
 - (ii) A record that shows that within the preceding 24 calendar months, service as a company check pilot, chief flight instructor, company check airman, or flight instructor in a Part 9 operation, or in a position involving the regular evaluation of pilots; or
 - (iii) A graduation certificate showing that the pilot has successfully completed an approved flight instructor refresher course consisting of ground training or flight training, or both, within the 90 days preceding the expiration month of his or her flight instructor licence.
- (3) If a flight instructor accomplishes the renewal requirements within the 90 days preceding the expiration month of his or her flight instructor licence:
- (i) The Authority shall consider that the flight instructor accomplished the renewal requirement in the month due; and
 - (ii) The Authority shall renew the current flight instructor rating for an additional 24 calendar months from its expiration date.
- (4) A flight instructor may accomplish the skill test required by this subsection in an approved course conducted by an ATO certified under Part 3.
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- (j) Reissue. If the instructor licence has expired, the applicant shall:
 - (1) Have received refresher training from an authorised instructor with an endorsement that the person is prepared for the required skill test; and
 - (2) Pass the prescribed skill test.
- (k) Additional flight instructor licences. An applicant for an additional flight instructor licence shall meet the requirements listed in 2.3.9.2 that apply to the flight instructor rating sought.
- (l) Flight instructor records. A flight instructor shall:
 - (1) Sign the logbook of each person to whom that instructor has given flight training or ground training.
 - (2) Maintain a record in a logbook or separate document that contains the following:
 - (i) The name of each person whose logbook or student pilot licence that instructor has endorsed for solo flight privileges, and the date of the endorsement; and
 - (ii) The name of each person that instructor has endorsed for a knowledge test or skill test, and a record of the kind of test, the date, and the results.
 - (3) Retain the records required by this subsection for at least 3 years.
- (m) Flight instructor limitations and qualifications. The holder of a flight instructor licence shall observe the following limitations and qualifications.
 - (1) Hours of training. In any 24-consecutive-hour period, a flight instructor may not conduct more than 8 hours of flight training.
 - (2) Required licence and ratings. A flight instructor may not conduct flight training in any aircraft for which the flight instructor does not hold a pilot licence and flight instructor licence with the applicable category and if applicable class or type rating.
 - (3) For instrument flight training or for training for a type rating not limited to VFR, an appropriate instrument rating on his or her flight instructor rating and pilot licence.
 - (4) Limitations on endorsements. A flight instructor may not endorse the following:
 - (i) Student pilot's licence or logbook for solo flight privileges, unless that flight instructor has:
 - (A) Given that student the flight training required for solo flight privileges required by this subpart;
 - (B) Determined that the student is prepared to conduct the flight safely under known circumstances, subject to any limitations listed in the student's logbook that the instructor considers necessary for the safety of the flight;
 - (C) Given that student pilot training in the make and model of aircraft or a similar make and model of aircraft in which the solo flight is to be flown; and
 - (D) Endorsed the student pilot's logbook for the specific make and model aircraft to be flown.
 - (ii) Student pilot's licence and logbook for a solo cross country flight, unless that flight instructor has determined that:

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- (A) The student's flight preparation, planning, equipment, and proposed procedures are adequate for the proposed flight under the existing conditions and within any limitations listed in the logbook that the instructor considers necessary for the safety of the flight; and
 - (B) The student has the appropriate solo cross country endorsement for the make and model of aircraft to be flown.
 - (iii) Student pilot's licence and logbook for solo flight in a Class B airspace area or at an airport within Class B airspace unless that flight instructor has:
 - (A) Given that student ground and flight training in that Class B airspace or at that airport; and
 - (B) Determined that the student is proficient to operate the aircraft safely.
 - (iv) Logbook of a pilot for a flight review, unless that instructor has conducted a review of that pilot in accordance with the requirements 8.4.1.11(a)(3); or
 - (v) Logbook of a pilot for an instrument proficiency check, unless that instructor has tested that pilot in accordance with the requirements of 8.4.1.10(b).
 - (5) Training in a multiengine aeroplane or a helicopter. A flight instructor may not give training required for the issuance of a licence or rating in a multiengine aeroplane or a helicopter, unless that flight instructor has at least 5 flight hours of PIC time in the specific make and model of multiengine aeroplane or helicopter, as appropriate.
 - (6) Qualifications of the flight instructor for training first-time flight instructor applicants.
 - (i) No flight instructor may provide instruction to another pilot who has never held a flight instructor licence unless that flight instructor:
 - (A) Holds a current ground or flight instructor licence with the appropriate rating, has held that licence for at least 24 months, and has given at least 40 hours of ground training; or
 - (B) Holds a current ground or flight instructor licence with the appropriate rating, and has given at least 100 hours of ground training in a course which has been approved by the Authority.
 - (C) Meets the eligibility requirements prescribed in 2.2.6.
 - (ii) For training in preparation for an aeroplane or helicopter rating, has given at least 200 hours of flight training as a flight instructor.
 - (7) Prohibition against self-endorsements. A flight instructor may not make any self-endorsement for a licence, rating, flight review, authorisation, operating privilege, skill test, or knowledge test that is required by Part 2.
 - (8) Category II and Category III instructions: A flight instructor may not give training in Category II or Category III operations unless the flight instructor has been trained and tested in Category II or Category III operations as applicable.
- (n) The skill test and proficiency check for flight instructor ratings in the categories of aeroplane, helicopter, powered-lift and airship, as well as instrument ratings (aeroplane, helicopter, and powered-lift) and additional type ratings are included in IS 2.3.9.2.
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2.3.9.3 INSTRUCTOR AUTHORISATION FOR FLIGHT SIMULATION TRAINING

- (a) Current and former holders of professional pilot licences, having instructional experience can apply for an authorisation to provide flight instruction in a flight simulation training device, provided the applicant has at least 1 year experience as instructor in flight simulation training devices.
 - (1) Skill. The applicant shall have demonstrated in a skill test, in the category and in the class or type of aircraft for which instructor authorisation privileges are sought, the ability to instruct in those areas in which ground instruction is to be given.
 - (2) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of an authorisation are to carry out instruction in a flight simulation training device for the issue of a class or type rating in the appropriate category of aircraft.
 - (3) Validity. Subject to compliance with the requirements specified in this Part, the validity period of an instructor authorisation for flight simulation training is 1 year.
 - (4) Renewal. Renewal of the authorisation requires the successful completion of a proficiency check.
 - (5) Reissue. If the authorisation has expired, the applicant must complete refresher training and successfully pass a skill test in the category and class or type of aircraft for which instructor authorisation privileges are sought.

2.3.9.4 GROUND INSTRUCTOR LICENCE

- (a) Age. The applicant for a ground instructor licence shall be at least 18 years of age.
- (b) Knowledge.
 - (1) Receive and log training from an authorised instructor and pass a knowledge test on the aeronautical knowledge areas appropriate to the aircraft category, for the licence and ratings below as applicable:
 - (i) For a basic rating, the knowledge for a student and private pilot licence as listed in this Part;
 - (ii) For an advanced rating, the student, private, commercial and airline transport pilot knowledge areas as listed in this Part;
 - (iii) For an instrument rating, the knowledge for the instrument rating as listed in this Part.
 - (2) Meet the requirements of fundamentals of knowledge instructing as listed in 2.2.6.
- (c) Privileges. The holder of a ground instructor licence may exercise the privileges appropriate to the licence and rating held.
 - (1) A person who holds a ground instructor licence with a basic rating is authorised to provide:
 - (i) Ground training in the aeronautical knowledge areas required for the issuance of a student pilot authorisation or private pilot licence or associated ratings;
 - (ii) Ground training required for a private pilot flight review; and
 - (iii) A recommendation for a knowledge test required for the issuance of a private pilot licence.
 - (2) A person who holds a ground instructor licence with an advanced rating is authorised to provide:

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- (i) Ground training in the aeronautical knowledge areas required for the issuance of any licence or rating;
 - (ii) Ground training required for any flight review; and
 - (iii) A recommendation for a knowledge test required for the issuance of any licence.
 - (3) A person who holds an instrument ground instructor rating is authorised to provide:
 - (i) Ground training in the aeronautical knowledge areas required for the issuance of an instrument rating;
 - (ii) Ground training required for an instrument proficiency check; and
 - (iii) A recommendation for a knowledge test required for the issuance of an instrument rating.
 - (4) A person who holds a ground instructor licence is authorised, within the limitations of the licence and ratings on the ground instructor licence, to endorse the logbook or other training record of a person to whom the holder has provided the training or recommendation specified in (1) through (3) of this subsection.
 - (d) Validity. The validity period for a ground instructor licence is 1 year.
 - (e) Renewal. The applicant for renewal of a ground instructor licence shall provide to the Authority satisfactory evidence of at least 3 months service as a ground instructor within the past 12 months.
 - (f) Reissue. If the ground instructor licence has expired, the applicant for reissuance must complete refresher training acceptable to the Authority and receive an endorsement from a licensed ground or flight instructor certifying that the person has demonstrated satisfactory proficiency with the standards prescribed in this part for the licence and rating.

2.3.10 DESIGNATED PILOT EXAMINERS

2.3.10.1 REQUIREMENTS AND SKILL TEST

- (a) Age. An applicant for a designated pilot examiner shall be at least 21 years of age.
- (b) Medical. An applicant for a designated pilot examiner shall have a Class 1 medical certificate.
- (c) General eligibility. An applicant for a designated pilot examiner shall:
 - (1) Hold at least the licence and/or class/type ratings as applicable for which examining authority is sought;
 - (2) Hold at least the flight instructor ratings for which examining authority is sought or be serving in a comparable position as an air operator check airman or check pilot or comparable position in an Approved Training Organisation;
 - (3) Have a reputation for integrity and dependability in the industry and the community;
 - (4) Have a good record as a pilot and flight instructor in regard to accidents, incidents, and violations; and
 - (5) Have pilot and instructor licence/ratings that have never been revoked for falsification or forgery.

- (d) Knowledge: The applicant for a designated pilot examiner shall pass a pre-designation knowledge test in the areas appropriate to the category of aircraft for which designation is sought.
- (e) Skill test. The applicant for a designated pilot examiner shall pass a skill test conducted by an inspector of the Authority who holds a current and valid licence with appropriate category, and if applicable class and type ratings, in the areas of operation contained in IS 2.3.10.1.
- (f) Maintaining currency. After designation, a designated pilot examiner shall maintain currency by:
 - (1) Attending initial and recurrent training provided by the Authority, and
 - (2) Maintain a current and valid:
 - (i) Pilot licence, and if applicable, class/type ratings appropriate to the designation;
 - (ii) Flight instructor licence and ratings applicable to the designation; and
 - (iii) Class I medical certificate.
- (g) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the examiner's designation are to conduct skill tests and proficiency checks for a licence and rating(s) as listed on the designated pilot examiner's certificate of designation and identification card.
- (h) Validity. Subject to compliance with the requirements specified in this Part, the validity period of an examiner's designation is 3 years.
- (i) Renewal.
 - (1) Renewal will be at the discretion of the Authority.
 - (2) An applicant for renewal shall pass the appropriate skill test on the areas of operation listed in IS 2.3.10.1
- (j) Additional designations. When the Authority deems it necessary for a designated pilot examiner to receive additional designations, the designated pilot examiner:
 - (1) Shall meet all the requirements in this Part for the designation;
 - (2) Need not take an additional knowledge test provided the designation is within the same aircraft category.
- (k) The requirements for the designation of a pilot examiner are included in IS 2.3.10.1.

2.3.10.2 EXPERIENCE REQUIREMENTS FOR PRIVATE PILOT EXAMINER (PPE)

- (a) Experience: PPE—Aeroplane Category. The applicant shall have at least:
 - (1) A CPL(A), appropriate class rating(s) and in IR(A);
 - (2) A valid flight instructor licence with an aeroplane category and appropriate class rating(s).
 - (3) 2,000 hours as PIC which includes at least:
 - (i) 1,000 hours in aeroplanes, of which 300 hours were accrued within the past year;
 - (ii) 300 hours in the class of airplane for which the designation is sought; and
 - (iii) 100 hours in aeroplanes at night.
 - (4) 500 hours as a flight instructor in aeroplane which includes at least 100 hours of flight instruction given in the class of aeroplane appropriate to the designation sought.
- (b) Experience: PPE—Helicopter Category. The applicant shall have at least:

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- (1) A CPL(H), appropriate class rating(s).
 - (2) A valid flight instructor licence with a helicopter category and appropriate class rating(s).
 - (3) 1,000 hours as PIC which includes at least:
 - (i) 500 hours in helicopters, of which 100 hours were accrued within the past year; and
 - (ii) 250 hours in helicopters as appropriate for the designation sought.
 - (4) 200 hours as a flight instructor in helicopters, as appropriate for the designation sought.
- (c) Experience: PPE—Powered-Lift Category. The applicant shall have at least:
- (1) A CPL powered-lift category with an instrument powered-lift rating.
 - (2) A valid flight instructor licence with a powered-lift category.
 - (3) 2,000 hours as PIC which includes at least:
 - (i) 1,000 hours in powered-lift, of which 300 hours were accrued within the past year; and
 - (ii) 100 hours in powered-lift at night.
 - (4) 500 hours as a flight instructor in powered-lift.
- (d) Experience: PPE—Airship Category. The applicant shall have at least:
- (1) A CPL airship category and any applicable class rating(s).
 - (2) A valid flight instructor licence with an airship category and any applicable class rating(s).
 - (3) 1,000 hours as PIC which includes at least:
 - (i) 500 hours in airships, of which 200 hours were accrued within the past year; and
 - (ii) 50 hours in airships at night.
 - (4) 100 hours as a flight instructor in airships.

2.3.10.3 EXPERIENCE REQUIREMENTS FOR COMMERCIAL AND INSTRUMENT RATING PILOT EXAMINER (CIRE)

- (a) Experience: CIRE—Aeroplane Category. The examiner applicant shall have at least:
- (1) A commercial pilot licence with an aeroplane category rating, appropriate class rating(s) and an Instrument –Aeroplane rating.
 - (2) A valid flight instructor certificate with an aeroplane category rating, the appropriate class rating(s) and an Instrument-Aeroplane rating.
 - (3) 2,000 hours as PIC, which includes at least:
 - (i) 1,000 hours in aeroplanes, of which 300 hours were accrued within the past year;
 - (ii) 500 hours in the class of aeroplane for which the designation is sought;
 - (iii) 100 hours at night in aeroplanes;
 - (iv) 100 hours of instrument flight time in actual or simulated conditions; and
 - (v) For authority to conduct skill tests in large or turbine-powered aeroplanes:
 - (A) 300 hours in large or turbine-powered aeroplanes, of which 50 hours are in the type of aeroplane for which designation is sought, and
 - (B) 25 hours for each additional type of large aeroplane for which designation is sought;

- 4) 500 hours as a flight instructor in aeroplanes which include at least:
 - (i) 100 hours of flight instruction given in the class of aeroplane applicable to the designation sought; and
 - (ii) 250 hours of instrument flight instruction, of which 200 hours were given in aeroplanes.
- (b) Experience: CIRE—Helicopter Category. The examiner applicant shall have at least:
 - (1) A commercial pilot licence with a helicopter category rating, appropriate class rating(s) and an Instrument –Helicopter rating.
 - (2) A valid flight instructor certificate with a helicopter category rating, the appropriate class rating(s) and an Instrument-Helicopter rating.
 - (3) 2,000 hours as PIC, which includes at least:
 - (i) 500 hours in helicopters, of which 100 hours were accrued within the past year.
 - (ii) 100 hours of instrument flight time in actual or simulated conditions.
 - (iii) For authority to conduct skill tests in large or turbine-powered aeroplanes:
 - (A) 100 hours in large helicopters, of which 50 hours are in the type of helicopter for which designation is sought; and
 - (B) 25 hours for each additional type of large helicopter for which designation is sought.
 - (4) 250 hours as a flight instructor in helicopters, which include at least:
 - (1) 100 hours of flight instruction given in the helicopters; and
 - (2) 50 hours of instrument flight instruction in helicopters.
- (c) Experience: CIRE—Powered-Lift Category. The examiner applicant shall have at least:
 - (1) A commercial pilot licence with a powered-lift category rating, any applicable class rating(s) and an Instrument –Powered-lift rating.
 - (2) A valid flight instructor certificate with a powered-lift category rating, any applicable class rating(s) and an Instrument-Powered-lift rating.
 - (3) 2,000 hours as PIC, which includes at least:
 - (i) 1,000 hours in powered-lifts, of which 300 hours were accrued within the past year;
 - (ii) 100 hours at night in powered-lifts;
 - (iii) 100 hours of instrument flight time in actual or simulated conditions; and
 - (iv) For authority to conduct skill tests in large or turbine-engine powered-lifts:
 - (A) 300 hours in large or turbine-engine powered-lifts, of which 50 hours are in the type of powered-lift for which designation is sought, and
 - (B) 25 hours for each additional type of large aeroplane for which designation is sought.
- 4) 500 hours as a flight instructor in powered-lifts, which include at least:
 - (i) 250 hours of instrument flight instruction, of which 200 hours were given in powered-lifts.

2.3.10.4 EXPERIENCE REQUIREMENTS FOR COMMERCIAL PILOT EXAMINERS (CE)

- (a) Experience: CE—Helicopter Category. The examiner applicant shall have at least:
 - (1) A commercial pilot licence with a helicopter category rating.
 - (2) A valid flight instructor certificate with a helicopter category rating.
 - (3) 2,000 hours as PIC, which includes at least:
 - (i) 500 hours in helicopters, of which 100 hours were accrued within the past year;
 - (ii) For authority to conduct skill tests in large helicopters:
 - (A) 100 hours in large helicopters, of which 50 hours are in the type of helicopter for which designation is sought; and
 - (B) 25 hours for each additional type of large helicopter for which designation is sought.
 - (4) 250 hours as a flight instructor in helicopters, which include at least:
 - (i) 50 hours of instrument flight instruction in helicopters.
- (b) Experience: CE—Airship Category. The applicant shall have at least:
 - (1) A CPL with airship category rating and any applicable class rating(s);
 - (2) A valid flight instructor licence with an airship category and any applicable class rating(s).
 - (3) 1,000 hours as PIC which includes at least:
 - (i) 500 hours in airships, of which 200 hours were accrued within the past year; and
 - (ii) 50 hours in airships at night.
 - (4) 100 hours as a flight instructor in airships.

2.3.10.5 EXPERIENCE REQUIREMENTS FOR AIRLINE TRANSPORT PILOT (ATPL) EXAMINERS (ATPE)

- (a) Experience: ATPE—Aeroplane Category. The examiner applicant shall have at least:
 - (1) An ATPL with an aeroplane category rating, appropriate class rating(s) and an Instrument—Aeroplane rating.
 - (2) A valid flight instructor certificate with an aeroplane category rating, the appropriate class rating(s) and an Instrument-Aeroplane rating.
 - (3) 2,000 hours as PIC, which includes at least:
 - (i) 1,500 hours in aeroplanes, of which 300 hours were accrued within the past year.
 - (ii) 500 hours in the class of aeroplane for which the designation is sought.
 - (iii) 100 hours at night in aeroplanes.
 - (iv) 200 hours in complex aeroplanes.
 - (v) 100 hours of instrument flight time in actual or simulated conditions.
 - (vi) For authority to conduct skill tests in large or turbine-powered aeroplanes:

- (A) 300 hours in large or turbine-powered aeroplanes, of which 50 hours are in the type of aeroplane for which designation is sought; and
 - (B) 25 hours for each additional type of large aeroplane for which designation is sought.
 - (4) 500 hours as a flight instructor in aeroplanes which include at least:
 - (i) 100 hours of flight instruction given in the class of aeroplane applicable to the designation sought;
 - (ii) 250 hours of instrument flight instruction, of which 200 hours were given in aeroplanes; and
 - (iii) 150 hours flight instruction given for either a CPL(A) or ATPL(A) or an IR(A).
- (b) Experience: ATPE—Helicopter Category. The examiner applicant shall have at least:
 - (1) An ATPL with a helicopter category rating, appropriate class rating(s) and an Instrument – Helicopter rating.
 - (2) A valid flight instructor certificate with a helicopter category rating, the appropriate class rating(s) and an Instrument-Helicopter rating.
 - (3) 2,000 hours as PIC, which includes at least:
 - (i) 1,200 hours in helicopters, of which 100 hours were accrued within the past year;
 - (ii) 100 hours of instrument flight time in actual or simulated conditions; and
 - (iii) For authority to conduct skill tests in large helicopters:
 - (A) 100 hours in large helicopters, of which 50 hours are in the type of helicopter for which designation is sought, and
 - (B) 25 hours for each additional type of large helicopter for which designation is sought.
 - (4) 250 hours as a flight instructor in helicopters, which include at least:
 - (i) 100 hours of flight instruction given in the helicopters; and
 - (ii) 50 hours of instrument flight instruction in helicopters.
- (c) Experience: ATPE—Powered-Lift Category. The examiner applicant shall have at least:
 - (1) An ATPL with a powered-lift category rating, any applicable class rating(s) and an Instrument – Powered-lift rating.
 - (2) A valid flight instructor certificate with a powered-lift category rating, any applicable class rating(s) and an Instrument-Powered-lift rating.
 - (3) 2,000 hours as PIC, which includes at least:
 - (i) 1,500 hours in powered-lifts, of which 300 hours were accrued within the past year;
 - (ii) 100 hours at night in powered-lifts;
 - (iii) 100 hours of instrument flight time in actual or simulated conditions; and
 - (iv) For authority to conduct skill tests in large or turbine-engine powered-lifts:
 - (A) 300 hours in large or turbine-engine powered-lifts, of which 50 hours are in the type of powered-lift for which designation is sought; and

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- (B) 25 hours for each additional type of large aeroplane for which designation is sought.
 - (4) 500 hours as a flight instructor in powered-lifts, which include at least:
 - (i) 250 hours of instrument flight instruction, of which 200 hours were given in powered-lifts; and
 - (ii) 150 hours flight instruction given for either a CPL- powered-lift, ATPL – powered-lift or IR-powered-lift.

2.3.10.6 EXPERIENCE REQUIREMENTS FOR FLIGHT INSTRUCTOR EXAMINER (FIE)

- (a) The examiner applicant shall have at least:
 - (1) The requirements for a commercial examiner or a commercial instrument rating examiner designation, as appropriate for the category and class of aircraft pertinent to the FIE designation sought; and.
 - (2) Have held a Commercial Examiner or Commercial and Instrument Rating Examiner designation for at least a year prior to designation as a FIE.

2.3.11 REMOTE PILOT LICENCE (RPL) -RESERVED

2.4 RESERVED

2.5 RESERVED

2.6 AVIATION MAINTENANCE LICENSING, INSTRUCTORS AND DESIGNATED EXAMINERS

- (a) For the purpose of this Part, the Authority shall be:
 - (1) the entity to whom a person first applies for the issuance of an aircraft maintenance licence;
- (b) The Authority shall be responsible for defining:
 - (1) the list of aircraft types; and
 - (2) what airframe/engine combinations are included in each particular aircraft type rating.

2.6.1 SECTION A – TECHNICAL REQUIREMENTS

SUBPART A - AIRCRAFT MAINTENANCE LICENCE

2.6.1.1 Scope

- (a) This section defines the aircraft maintenance licence and establishes the requirements for application, issue and continuation of its validity.

2.6.1.2 Licence categories

- (a) Aircraft maintenance licences include the following categories:
- Category A
 - Category B1
 - Category B2
 - Category B3
 - Category C
- (b) Categories A and B1 are subdivided into subcategories relative to combinations of aeroplanes, helicopters, turbine and piston engines. These subcategories are:
- A1 and B1.1 Aeroplanes Turbine
 - A2 and B1.2 Aeroplanes Piston
 - A3 and B1.3 Helicopters Turbine
 - A4 and B1.4 Helicopters Piston
- (c) Category B3 is applicable to piston-engine non-pressurised aeroplanes of 2 000 kg MTOM and below.

2.6.1.3 Aircraft groups

- (a) For the purpose of ratings on aircraft maintenance licences, aircraft shall be classified in the following groups:
1. Group1: complex motor-powered aircraft as well as multiple engine helicopters, aeroplanes with maximum certified operating altitude exceeding FL290, aircraft equipped with fly-by-wire systems and other aircraft requiring an aircraft type rating when defined so by the Authority.
 2. Group 2: aircraft other than those in Group 1 belonging to the following subgroups:
 - sub-group 2a: single turbo-propeller engine aeroplanes;

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- sub-group 2b: single turbine engine helicopters;
 - sub-group 2c: single piston engine helicopters.
3. Group 3: piston engine aeroplanes other than those in Group 1.

2.6.1.4 Application

- (a) An application for an aircraft maintenance licence or change to such licence shall be made on a CCAA Form 19 (see IS 2.6.1.4) in a manner established by the Authority and submitted thereto.
- (b) An application for the change to an aircraft maintenance licence shall be made to the Authority.
- (c) In addition to the documents required in points 2.6.1.4(a), 2.6.1.4(b) and 2.6.2.7, as appropriate, the applicant for additional basic categories or subcategories to an aircraft maintenance licence shall submit his/her current original aircraft maintenance licence to the Authority together with the CCAA Form 19.
- (d) Where the applicant for change of the basic categories qualifies for such change via the procedure referred to in point 2.6.2.6, the application shall be sent to the Authority referred to in point 2.6.1.
- (e) Where the applicant for change of the basic categories qualifies for such change via the procedure referred to in point 2.6.2.7, the maintenance organisation approved in accordance with Part 6 shall send the aircraft maintenance licence together with the CCAA Form 19 to the Authority referred to in point 2.6.1 for stamp and signature of the change or reissue of the licence, as appropriate.
- (f) Each application shall be supported by documentation to demonstrate compliance with the applicable theoretical knowledge, skill test, skill test and experience requirements at the time of application.
- (g) Each application shall comply with the applicable fees as per “Landsverordening Luchtvaarttarieven”.

2.6.1.5 Eligibility

- (a) An applicant for an aircraft maintenance licence shall be at least 18 years of age.

2.6.1.6 Privileges

- (a) The following privileges shall apply:
 - (1) A category A aircraft maintenance licence permits the holder to issue certificates of release to service following minor scheduled line maintenance and simple defect rectification within the limits of tasks specifically endorsed on the certification authorisation referred to in Part 6. The certification privileges shall be restricted to work that the licence holder has personally performed in the maintenance organisation

that issued the certification authorisation.

- (2) A category B1 aircraft maintenance licence shall permit the holder to issue certificates of release to service and to act as B1 support staff following:
 - (i) maintenance performed on aircraft structure, powerplant and mechanical and electrical systems,
 - (ii) work on avionic systems requiring only simple tests to prove their serviceability and not requiring troubleshooting.

Category B1 includes the corresponding A subcategory.

- (3) A category B2 aircraft maintenance licence shall permit the holder:
 - (i) to issue certificates of release to service and to act as B2 support staff for following:
 - (A) maintenance performed on avionic and electrical systems, and
 - (B) electrical and avionics tasks within powerplant and mechanical systems, requiring only simple tests to prove their serviceability; and
 - (ii) to issue certificates of release to service following minor scheduled line maintenance and simple defect rectification within the limits of tasks specifically endorsed on the certification authorisation referred to in Part 6. This certification privilege shall be restricted to work that the licence holder has personally performed in the maintenance organisation which issued the certification authorisation and limited to the ratings already endorsed in the B2 licence.

The category B2 licence does not include any A subcategory.

- (4) A category B3 aircraft maintenance licence shall permit the holder to issue certificates of release to service and to act as B3 support staff for:
 - (i) maintenance performed on aeroplane structure, powerplant and mechanical and electrical systems,
 - (ii) work on avionic systems requiring only simple tests to prove their serviceability and not requiring troubleshooting.
- (5) A category C aircraft maintenance licence shall permit the holder to issue certificates of release to service following base maintenance on aircraft. The privileges apply to the aircraft in its entirety.

- (b) The holder of an aircraft maintenance licence may not exercise its privileges unless:
 - (1) in compliance with the applicable requirements of Part 5 and Part 6; and
 - (2) in the preceding 2-year period he/she has, either had 6 months of maintenance experience in accordance with the privileges granted by the aircraft maintenance

licence or, met the provision for the issue of the appropriate privileges; and

- (3) he/she has the adequate competence to certify maintenance on the corresponding aircraft; and
- (4) he/she is able to read, write and communicate to an understandable level in the language(s) in which the technical documentation and procedures necessary to support the issue of the certificate of release to service are written.

2.6.1.7 Basic Knowledge Requirements

- (a) An applicant for an aircraft maintenance licence, or the addition of a category or subcategory to such a licence, shall demonstrate by examination a level of knowledge in the appropriate subject modules in accordance with the IS 2.6.1.7 to Part 2. The examination shall be conducted either by a training organisation appropriately approved in accordance with Part 3 or by the Authority.
- (b) The training courses and examinations shall be passed within 10 years prior to the application for an aircraft maintenance licence or the addition of a category or subcategory to such aircraft maintenance licence. Should this not be the case, examination credits may however be obtained in accordance with point (c).
- (c) The applicant may apply to the Authority for full or partial examination credit to the basic knowledge requirements for:
 - 1. basic knowledge examinations that do not meet the requirement described in point (b) above; and
 - 2. any other technical qualification considered by the Authority to be equivalent to the knowledge standard of Part 2.

Credits shall be granted in accordance with Subpart E of Section B of this Part.

- (d) Credits expire 10 years after they were granted to the applicant by the Authority. The applicant may apply for new credits after expiration.

2.6.1.8 Basic experience requirements

- (a) An applicant for an aircraft maintenance licence shall have acquired:
 - 1. for category A, subcategories B1.2 and B1.4 and category B3:
 - (i) 3 years of practical maintenance experience on operating aircraft, if the applicant has no previous relevant technical training; or
 - (ii) 2 years of practical maintenance experience on operating aircraft and completion of training considered relevant by the Authority as a skilled worker, in a technical trade; or
 - (iii) 1 year of practical maintenance experience on operating aircraft and completion of a basic training course approved in accordance with Part 3;

2. for category B2 and subcategories B1.1 and B1.3:
 - (i) 5 years of practical maintenance experience on operating aircraft if the applicant has no previous relevant technical training; or
 - (ii) 3 years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or
 - (iii) 2 years of practical maintenance experience on operating aircraft and completion of a basic training course approved in accordance with Part 3;
 3. for category C with respect to large aircraft:
 - (i) 3 years of experience exercising category B1.1, B1.3 or B2 privileges on large aircraft or as support staff or, a combination of both; or
 - (ii) 5 years of experience exercising category B1.2 or B1.4 privileges on large aircraft or as support staff or a combination of both;
 4. for category C with respect to other than large aircraft: 3 years of experience exercising category B1 or B2 privileges on other than large aircraft or as support staff or a combination of both;
 - (5) for category C obtained through the academic route: an applicant holding an academic degree in a technical discipline, from a university or other higher educational institution recognised by the Authority, 3 years of experience working in a civil aircraft maintenance environment on a representative selection of tasks directly associated with aircraft maintenance including 6 months of observation of base maintenance tasks.
- (b) An applicant for an extension to an aircraft maintenance licence shall have a minimum civil aircraft maintenance experience requirement appropriate to the additional category or subcategory of licence applied for as defined in IS 2.6.1.8 to this Part.
 - (c) The experience shall be practical and involve a representative cross section of maintenance tasks on aircraft.
 - (d) At least 1 year of the required experience shall be recent maintenance experience on aircraft of the category/subcategory for which the initial aircraft maintenance licence is sought. For subsequent category/subcategory additions to an existing aircraft maintenance licence, the additional recent maintenance experience required may be less than 1 year, but shall be at least 3 months. The required experience shall be dependent upon the difference between the licence category/subcategory held and applied for. Such additional experience shall be typical of the new licence category/ subcategory sought.
 - (e) Notwithstanding paragraph (a), aircraft maintenance experience gained outside a civil aircraft maintenance environment shall be accepted when such maintenance is equivalent to that required by this Part as established by the Authority. Additional experience of civil aircraft maintenance shall, however, be required to ensure adequate understanding of the civil aircraft maintenance environment.

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- (f) Experience shall have been acquired within the 10 years preceding the application for an aircraft maintenance licence or the addition of a category or subcategory to such a licence.

2.6.1.9 RESERVED

2.6.1.10 Continued validity of the aircraft maintenance licence

- (a) The aircraft maintenance licence becomes invalid 5 years after its last issue or change, unless the holder submits his/her aircraft maintenance licence to the Authority that issued it, in order to verify that the information contained in the licence is the same as that contained in the Authority records, pursuant to point 2.6.2.10.
- (b) The holder of an aircraft maintenance licence shall complete the relevant parts of CCAA Form 19 (see IS 2.6.1.4) and submit it with the holder's copy of the licence to the Authority that issued the original aircraft maintenance licence, unless the holder works in a maintenance organisation approved in accordance with Part 6 that has a procedure in its exposition whereby such organisation may submit the necessary documentation on behalf of the aircraft maintenance licence holder.
- (c) Any certification privilege based upon an aircraft maintenance licence becomes invalid as soon as the aircraft maintenance licence is invalid.
- (d) The aircraft maintenance licence is only valid (i) when issued and/or changed by the Authority and (ii) when the holder has signed the document.

2.6.1.11 Endorsement with aircraft ratings

- (a) In order to be entitled to exercise certification privileges on a specific aircraft type, the holder of an aircraft maintenance licence need to have his/her licence endorsed with the relevant aircraft ratings.
- (b) For category B1, B2 or C the relevant aircraft ratings are the following:
 - 1. For group 1 aircraft, the appropriate aircraft type rating.
 - 2. For group 2 aircraft, the appropriate aircraft type rating, manufacturer sub-group rating or full sub-group rating.
 - 3. For group 3 aircraft, the appropriate aircraft type rating or full group rating.
- (iii) For category B3, the relevant rating is 'piston-engine non-pressurised aeroplanes of 2 000 kg MTOM and below'.
- (iv) For category A, no rating is required, subject to compliance with the requirements of Part 6.
- (c) The endorsement of aircraft type ratings requires the satisfactory completion of the relevant category B1, B2 or C aircraft type training.
- (d) Addition to the requirement of point (b), the endorsement of the first aircraft type rating within a given category/sub-category requires satisfactory completion of the corresponding On the Job Training, as described in IS 2.6.1.11 to Part 2.

- (e) By derogation from points (b) and (c), for group 2 and 3 aircraft, aircraft type ratings may also be granted after:
 - (i) satisfactory completion of the relevant category B1, B2 or C aircraft type examination described in IS 2.6.1.11 to this Part 2, and
 - (ii) in the case of B1 and B2 category, demonstration of practical experience on the aircraft type. In that case, the practical experience shall include a representative cross section of maintenance activities relevant to the licence category.
 - (iii) In the case of a category C rating for a person qualified by holding an academic degree as specified in point 2.6.1.8 (a)(5), the first relevant aircraft type examination shall be at the category B1 or B2 level.
- (2) For group 2 aircraft:
 - 1. the endorsement of manufacturer sub-group ratings for category B1 and C licence holders requires complying with the aircraft type rating requirements of at least two aircraft types from the same manufacturer which combined are representative of the applicable manufacturer sub-group;
 - 2. the endorsement of full sub-group ratings for category B1 and C licence holders requires complying with the aircraft type rating requirements of at least three aircraft types from different manufacturers which combined are representative of the applicable sub-group;
 - 3. the endorsement of manufacturer sub-groups and full sub-group ratings for category B2 licence holders requires demonstration of practical experience which shall include a representative cross section of maintenance activities relevant to the licence category and to the applicable aircraft sub-group.
- (3) For group 3 aircraft:
 - 1. the endorsement of the full group 3 rating for category B1, B2 and C licence holders requires demonstration of practical experience, which shall include a representative cross section of maintenance activities relevant to the licence category and to the group 3.
 - 2. for category B1, unless the applicant provides evidence of appropriate experience, the group 3 rating shall be subject to the following limitations, which shall be endorsed on the licence:
 - (i) pressurised aeroplanes
 - (ii) metal structure aeroplanes
 - (iii) composite structure aeroplanes
 - (iv) wooden structure aeroplanes
 - (v) aeroplanes with metal tubing structure covered with fabric.
- (4) For the B3 licence:
 - 1. the endorsement of the rating 'piston-engine non-pressurised aeroplanes of 2 000 kg MTOM

and below' requires demonstration of practical experience which shall include a representative cross-section of maintenance activities relevant to the licence category.

- (1) unless the applicant provides evidence of appropriate experience, the rating referred to in point 1 shall be subject to the following limitations, which shall be endorsed on the licence:
 - (i) wooden structure aeroplanes
 - (ii) aeroplanes with metal tubing structure covered with fabric
 - (iii) metal structure aeroplanes
 - (iv) composite structure aeroplanes.

2.6.1.12 Limitations

- (a) Limitations introduced on an aircraft maintenance licence are exclusions from the certification privileges and affect the aircraft in its entirety.
- (b) For limitations referred to in point 2.6.1.11, limitations shall be removed upon:
 - 1. demonstration of appropriate experience; or
 - 2. after a satisfactory skill test performed by the Authority.
- (c) For limitations referred to in point 2.6.1.14, limitations shall be removed upon satisfactory completion of examination on those modules/subjects defined in the applicable conversion report referred to in point 2.6.2.14.

2.6.1.13 Evidence of qualification

- (a) Personnel exercising certification privileges as well as support staff shall produce their licence, as evidence of qualification, within 24 hours upon request by an authorised person.

2.6.1.14 Conversion provisions

- (a) The holder of a certifying staff qualification valid in Curaçao, prior to the date of entry into force of Part 2 shall be issued an aircraft maintenance licence by the Authority without further examination subject to the conditions specified in Section B Subpart D.
- (b) A person undergoing a certifying staff qualification process valid in Curaçao, prior to the date of entry into force of Part 2 may continue to be qualified. The holder of a certifying staff qualification gained following such process shall be issued an aircraft maintenance licence by the Authority without further examination subject to the conditions specified in Section B Subpart D.
- (c) Where necessary, the aircraft maintenance licence shall contain limitations in accordance with point 2.6.1.12 to reflect the differences between (i) the scope of the certifying staff qualification

valid in Curaçao before the entry into force of this Regulation and (ii) the basic knowledge requirements and the basic examination standards laid down in IS 2.6.1.7 and 2.6.2.13 to this Part.

- (d) By derogation to paragraph (c) for aircraft not involved in commercial air transport other than large aircraft, the aircraft maintenance licence shall contain limitations in accordance with point 2.6.1.12 to ensure that the certifying staff privileges valid in Curaçao before the entry into force of this Regulation and the privileges of the converted Part 2 aircraft maintenance licence remain the same.

2.6.2 SECTION B – PROCEDURES FOR AUTHORITY

SUBPART A - GENERAL

2.6.2.1 Scope

- (a) This section establishes the procedures including the administrative requirements to be followed by the Authorities in charge of the implementation and the enforcement of Section A of this Part.

2.6.2.2 Authority

- (a) General

The Authority is responsible for the issuance, continuation, change, suspension or revocation of aircraft maintenance licences.

This Authority shall establish an adequate organisational structure to ensure compliance with this Part.

- (b) Resources

The Authority shall be appropriately staffed to ensure the implementation of the requirements of this Part.

- (c) Procedures

The Authority shall establish documented procedures detailing how compliance with this Part is accomplished. These procedures shall be reviewed and amended to ensure continued compliance.

2.6.2.3 Record-keeping

- (a) The Authority shall establish a system of record-keeping that allows adequate traceability of the process to issue, revalidate, change, suspend or revoke each aircraft maintenance licence.
- (b) These records shall include for each licence:

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1. the application for an aircraft maintenance licence or change to that licence, including all supporting documentation;
 2. a copy of the aircraft maintenance licence including any changes;
 3. copies of all relevant correspondence;
 4. details of any exemption and enforcement actions;
 5. any report from other competent authorities relating to the aircraft maintenance licence holder;
 6. the records of examinations conducted by the Authority;
 7. the applicable conversion report used for conversion;
 8. the applicable credit report used for crediting.
- (c) Records referred to in points 1 to 5 of point (b) shall be kept at least 7 years after the end of the licence validity.
- (d) Records referred to in points 6, 7 and 8 of point (b) shall be kept for an unlimited period.

2.6.2.4 Mutual exchange of information

- (a) In order to implement the requirement of this Regulation, the authority shall participate in a mutual exchange of information with other ICAO Member States.
- (b) Without prejudice to the competencies of the ICAO Member States, in the case of a potential safety threat involving several ICAO Member States, the authority shall assist in carrying out the necessary oversight action.

2.6.2.5 Exemptions

- (a) All exemptions granted in accordance with this Part shall be approved by the Director General, recorded and retained by the Authority.

SUBPART B - ISSUE OF AN AIRCRAFT MAINTENANCE LICENCE

- (a) This Subpart provides the procedures to be followed by the Authority to issue, change or continue an aircraft maintenance licence.

2.6.2.6 Procedure for the issue of an aircraft maintenance licence by the Authority

- (a) On receipt of CCAA Form 19 and any supporting documentation, the Authority shall verify the CCAA Form 19 for completeness and ensure that the experience claimed meets

the requirement of this Part.

- (b) The authority shall verify an applicant's examination status and/or confirm the validity of any credits to ensure that all required modules of IS 2.6.1.7 have been met as required by this Part.
- (c) When having verified the identity and date of birth of the applicant and being satisfied that the applicant meets the standards of knowledge, skill and experience required by this Part, the authority shall issue the relevant aircraft maintenance licence to the applicant. The same information shall be kept on Authority records.
- (d) In the case where aircraft types or groups are endorsed at the time of the issuance of the first aircraft maintenance licence, the Authority shall verify compliance with point 2.6.2.9.

2.6.2.7 Procedure for the issue of an aircraft maintenance licence via a maintenance organisation approved in accordance with Part 6

- (a) A maintenance organisation approved in accordance with Part 6, when authorised to carry out this activity by the Authority, may (i) prepare the aircraft maintenance licence on behalf of the Authority or (ii) make recommendations to the Authority regarding the application from an individual for a aircraft maintenance licence so that the Authority may prepare and issue such licence.
- (b) Maintenance organisations referred to in point (a) shall ensure compliance with points 2.6.2.6 (a) and (b).
- (c) In all cases, the aircraft maintenance licence can only be issued to the applicant by the Authority.

2.6.2.8 Procedure for the change of an aircraft maintenance licence to include an additional basic category or subcategory

- (a) At the completion of the procedures specified in points 2.6.2.6 or 2.6.2.7, the Authority shall endorse the additional basic category or subcategory on the aircraft maintenance licence by stamp and signature or reissue the licence.
- (b) The Authority record system shall be changed accordingly.

2.6.2.9 Procedure for the change of an aircraft maintenance licence to include an aircraft rating or to remove limitations

- (a) On receipt of a satisfactory CAAA Form 19 and any supporting documentation demonstrating compliance with the requirements of the applicable rating together with the accompanying aircraft maintenance licence, the Authority shall either:
 - 1. endorse the applicant's aircraft maintenance licence with the applicable aircraft rating; or
 - 2. reissue the said licence to include the applicable aircraft rating; or
 - 3. remove the applicable limitations in accordance with point 2.6.1.12;

The Authority record system shall be changed accordingly.

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- (b) In the case where the complete type training is not conducted by maintenance training organisation appropriately approved in accordance with Part 3, the Authority shall be satisfied that all type training requirements are complied with before the type rating is issued.
 - (c) In the case where the On the Job Training is not required, the aircraft type rating shall be endorsed based on a Certificate of Recognition issued by a maintenance training organisation approved in accordance with Part 3.
 - (d) In the case where the aircraft type training is not covered by a single course, the authority shall be satisfied prior to the type rating endorsement that the content and length of the courses fully satisfy the scope of the licence category and that the interface areas have been appropriately addressed.
 - (e) In the case of differences training, the Authority shall be satisfied that (i) the applicant's previous qualification, supplemented by (ii) either a course approved in accordance with Part 3 or a course directly approved by the Authority, are acceptable for type rating endorsement.
 - (f) Compliance with the practical elements shall be demonstrated (i) by the provision of detailed skill test records or a logbook provided by a maintenance organisation appropriately approved in accordance with Part 6 or, where available, (ii) by a training certificate covering the skill test element issued by a maintenance training organisation appropriately approved in accordance with Part 3.
 - (g) Aircraft type endorsement shall use the aircraft type ratings specified by the Authority.

2.6.2.10 Procedure for the renewal of an aircraft maintenance licence validity

- (a) The Authority shall compare the holder's aircraft maintenance licence with the Authority records and verify any pending revocation, suspension or change action pursuant to point 2.6.2.20. If the documents are identical and no action is pending pursuant to point 2.6.2.20, the holder's copy shall be renewed for 5 years and the file endorsed accordingly.
- (b) If the Authority records are different from the aircraft maintenance licence held by the licence holder:
 - 1. the Authority shall investigate the reasons for such differences and may choose not to renew the aircraft maintenance licence.
 - 2. the Authority shall inform the licence holder and any known maintenance organisation approved in accordance with Part 5 or Part 6 that may be directly affected of such fact.
 - 3. the Authority shall, if necessary, take action in accordance with point 2.6.2.20 to revoke, suspend or change the licence in question.

2.6.2.11 Procedure for the conversion of licences including group ratings

- (a) Individual aircraft type ratings already endorsed on the aircraft maintenance licence referred to in Beschikking Luchtvaartbrevetering (P.B. 1995 no. 108, as amended) shall remain on the licence and shall not be converted to new ratings unless the licence holder fully meets the requirements for endorsement defined in point 2.6.1.11 of this Part for the corresponding group/sub-group ratings.

(b) The conversion shall be performed in accordance with the following conversion table:

1. for category B1 or C:
 - helicopter piston engine, full group: converted to 'full sub-group 2c' plus the aircraft type ratings for those single piston engine helicopters which are in group 1,
 - helicopter piston engine, manufacturer group: converted to the corresponding 'manufacturer sub-group 2c' plus the aircraft type ratings for those single piston engine helicopters of that manufacturer which are in group 1,
 - helicopter turbine engine, full group: converted to 'full sub-group 2b' plus the aircraft type ratings for those single turbine engine helicopters which are in group 1,
 - helicopter turbine engine, manufacturer group: converted to the corresponding 'manufacturer sub-group 2b' plus the aircraft type ratings for those single turbine engine helicopters of that manufacturer which are in group 1,
 - aeroplane single piston engine — metal structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence the following limitations shall be included: composite structure aeroplanes, wooden structure aeroplanes and metal tubing and fabric aeroplanes,
 - aeroplane multiple piston engines — metal structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence the following limitations shall be included: composite structure aeroplanes, wooden structure aeroplanes and metal tubing and fabric aeroplanes,
 - aeroplane single piston engine — wooden structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence the following limitations shall be included: metal structure aeroplanes, composite structure aeroplanes and metal tubing and fabric aeroplanes,
 - aeroplane multiple piston engine — wooden structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence the following limitations shall be included: metal structure aeroplanes, composite structure aeroplanes and metal tubing and fabric aeroplanes,
 - aeroplane single piston engine — composite structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence the following limitations shall be included: metal structure aeroplanes, wooden structure aeroplanes and metal tubing and fabric aeroplanes,
 - aeroplane multiple piston engine — composite structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence the following limitations shall be included: metal structure aeroplanes, wooden structure aeroplanes and metal tubing and fabric aeroplanes,
 - aeroplane turbine — single engine, full group: converted to 'full sub-group 2a' plus the aircraft type ratings for those single turboprop aeroplanes which did not require an aircraft type rating in the previous system and are in group 1,
 - aeroplane turbine — single engine, manufacturer group: converted to the corresponding 'manufacturer sub-group 2a' plus the aircraft type ratings for those single turboprop

aeroplanes of that manufacturer which did not require an aircraft type rating in the previous system and are in group 1,

- aeroplane turbine — multiple engine, full group: converted to the aircraft type ratings for those multiple turboprop aeroplanes which did not require an aircraft type rating in the previous system;

2. for category B2:

- aeroplane: converted to 'full sub-group 2a' and 'full group 3', plus the aircraft type ratings for those aeroplanes which did not require an aircraft type rating in the previous system and are in group 1,
- helicopter: converted to 'full sub-groups 2b and 2c', plus the aircraft type ratings for those helicopters which did not require an aircraft type rating in the previous system and are in group 1;

3. for category C:

- aeroplane: converted to 'full sub-group 2a' and 'full group 3', plus the aircraft type ratings for those aeroplanes which did not require an aircraft type rating in the previous system and are in group 1,
- helicopter: converted to 'full sub-groups 2b and 2c', plus the aircraft type ratings for those helicopters which did not require an aircraft type rating in the previous system and are in group 1.

- (c) If the licence was subject to limitations following the conversion process referred to in point 2.6.1.14, these limitations shall remain on the licence, unless they are removed under the conditions defined in the relevant conversion report referred to in point 2.6.2.14.

2.6.2.12 Procedure for the direct approval of aircraft type training

- (a) The Authority may approve aircraft type training not conducted by a maintenance training organisation approved in accordance with Part 3, pursuant to point 1 of IS 2.6.1.11 to this Part. In such case the Authority shall have a procedure to ensure the aircraft type training complies with IS 2.6.1.11 of this Part.

SUBPART C - EXAMINATIONS

- (a) This Subpart provides the procedures to be followed for the examinations conducted by the Authority.

2.6.2.13 Examination by the Authority

1. All examination questions shall be kept in a secure manner prior to an examination, to ensure that candidates will not know which particular questions will form the basis of the examination.

2. The Authority shall nominate:
 - (i) persons who control the questions to be used for each examination;
 - (ii) examiners who shall be present during all examinations to ensure the integrity of the examination.
3. Basic examinations shall follow the standard specified in IS 2.6.1.7 and 2.6.2.13 to this Part.
4. Type training examinations and type examinations shall follow the standard specified in IS 2.6.1.11 to Part.
5. New essay questions shall be raised at least every 6 months and questions already used withdrawn or rested from use. A record of the questions used shall be retained in the records for reference.
6. All examination papers shall be handed out at the start of the examination to the candidate and handed back to the examiner at the end of the allotted examination time period. No examination paper may be removed from the examination room during the allotted examination time period.
7. Apart from specific documentation needed for type examinations, only the examination paper may be available to the candidate during the examination.
8. Examination candidates shall be separated from each other so that they cannot read each other's examination papers. They may not speak to any person other than the examiner.
9. Candidates who are proven to be cheating shall be banned from taking any further examination within 12 months of the date of the examination in which they were found cheating.

SUBPART D - CONVERSION OF CERTIFYING STAFF QUALIFICATIONS

- (a) This Subpart provides the procedures for the conversion of certifying staff qualifications referred to in point 2.6.1.14 to aircraft maintenance licences.

2.6.2.14 General

- (a) The Authority may only convert qualifications (i) obtained in Curaçao for which it is competent and (ii) valid prior to the entry into force of the applicable requirements of this Part.
- (b) The Authority may only perform the conversion in accordance with a conversion report established pursuant to points 2.6.2.15 or 2.6.2.16, as applicable.
- (c) Conversion reports shall be either (i) developed by the Authority or (ii) approved by the Authority to ensure compliance with this Part.
- (d) Conversion reports together with any change of these shall be kept on record by the Authority in accordance with point 2.6.2.3.
- (e) General requirements for conversion. A person who holds a current and valid AMT licence issued by another Contracting State, in accordance with ICAO Annex 1, may apply for conversion of such

licence for use on aircraft registered in Curaçao provided the following requirements are met:

- 1) The applicant for the conversion shall present to the Authority the foreign licence and evidence of the experience required by presenting the personal record.
 - 2) The applicant for the conversion shall demonstrate to the Authority evidence of language proficiency in the English language.
 - 3) Demonstrate, to the satisfaction of the Authority and relevant to the licence to be converted, knowledge of Curaçao's:
 - a) Air Law;
 - b) Applicable Airworthiness requirements governing certification and continuing airworthiness;
 - c) Approved maintenance organisations and procedures.
- (f) The applicant for the validation certificate shall complete a skill test for the relevant licence and ratings that he or she wants to be converted relevant to the privileges of the licence held; and
- 1) Have a minimum of four years AMT experience.
 - a) The Authority will verify the authenticity of the licence, ratings and authorisations with the state of licence issue prior to issuing the converted licence.
 - b) The Authority will only convert ratings or authorisations on the foreign licence together with the conversion of a licence.
- (g) Conversion of AMT licences that have been validated in accordance with 2.2.4.7. The holder of a current and valid AMT licence issued by another Contracting State in accordance with ICAO Annex 1 who has a validation in accordance with 2.2.4.7 and can show evidence of 12 months performing maintenance on aircraft registered in Curaçao may convert his/her AMT licence with no further formality.

2.6.2.15 CONVERSION OF AMT LICENCES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

- (a) Notwithstanding paragraphs 2.2.4.7 , the Authority may issue a licence with the applicable ratings to the holder of a current and valid foreign licence, provided:
 - 1) the licence is issued by another ICAO Contracting State;
 - 2) the Authority is convinced that the licence has been issued on the basis of at least Part 2; and
 - 3) there is an agreement between the Authority and the other Contracting State about recognition of licences.
- (b) The applicant for the conversion shall present to the Authority the:
 - 1) Foreign licence; and
 - 2) Evidence of the currency of the licence by presenting the personnel record (e.g. logbook).
- (c) The applicant for the conversion shall demonstrate to the Authority evidence of language proficiency in English.
- (d) The applicant shall demonstrate, to the satisfaction of the Authority and relevant to the licence to be converted knowledge of Curaçao's:
 - 1) Air law;

- 2) Applicable airworthiness requirements governing certification and continuing airworthiness; and;
- 3) Approved maintenance organisations and procedures.
- (e) The Authority will verify the authenticity of the licence, ratings and authorisations with the State of Licence issue prior to issuing the licence.
- (f) The IS 2.2.4.10 contains procedures conversion of AMT licences by reliance upon the licensing system of another ICAO Contracting State.

2.6.2.16 Conversion report for national qualifications

- (a) The conversion report for national certifying staff qualifications shall describe the scope of each type of qualification, including the associated national licence, if any, the associated privileges and include a copy of the relevant national regulations defining these.
- (b) The conversion report shall show for each type of qualification referred to in point (a):
 - 1. to which aircraft maintenance licence it will be converted; and
 - 2. which limitations shall be added in accordance with points 2.6.1.14(c) or (d), as applicable; and
 - 3. the conditions to remove the limitations, specifying the module/subjects on which examination is needed to remove the limitations and obtain a full aircraft maintenance licence, or to include an additional (sub-) category. This shall include the modules defined in IS 2.6.1.11 to this Part not covered by the national qualification.

2.6.2.17 Conversion report for approved maintenance organisations authorisations

- (a) For each approved maintenance organisation concerned, the conversion report shall describe the scope of each type of authorisation issued by the maintenance organisation and include a copy of the relevant approved maintenance organisation's procedures for the qualification and the authorisation of certifying staff on which the conversion process is based.
- (b) The conversion report shall show for each type of authorisation referred to in point (a):
 - 1. to which aircraft maintenance licence it will be converted, and
 - 2. which limitations shall be added in accordance with points 2.6.1.14(c) or (d), as applicable, and
 - 3. the conditions to remove the limitations, specifying the module/subjects on which examination is needed to remove the limitations and obtain a full aircraft maintenance licence, or to include an additional (sub-) category. This shall include the modules defined in IS 2.6.1.11 to this Part not covered by the national qualification.

SUBPART E - EXAMINATION CREDITS

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- (a) This Subpart provides the procedures for granting examination credits referred to in point 2.6.1.7(c).

2.6.2.18 General

- (a) The Authority may only grant credit on the basis of a credit report prepared in accordance with point 2.6.2.18.
- (b) The credit report shall be either (i) developed by the competent authority or (ii) approved by the Authority to ensure compliance with this Part.
- (c) Credit reports together with any change of these shall be dated and kept on record by the Authority in accordance with point 2.6.2.3.

2.6.2.19 Examination credit report

- (a) The credit report shall include a comparison between:
 - (i) the modules, sub-modules, subjects and knowledge levels contained in IS 2.6.1.7 to this Part, as applicable; and
 - (ii) the syllabus of the technical qualification concerned relevant to the particular category being sought.

This comparison shall state if compliance is demonstrated and contain the justifications for each statement.

- (b) Credit for examinations, other than basic knowledge examinations carried out in maintenance training organisations approved in accordance with Part 3, can only be granted by the Authority by which the qualification has been obtained.
- (c) No credit can be granted unless there is a statement of compliance against each module and sub-module, stating where, in the technical qualification, the equivalent standard can be found.
- (d) The Authority shall check on a regular basis whether (i) the national qualification standard or (ii) IS 2.6.1.7 to this Part have changed and assess if changes to the credit report are consequently required. Such changes shall be documented, dated and recorded.

2.6.2.20 Examination credit validity

- (a) The Authority shall notify to the applicant in writing any credits granted together with the reference to the credit report used.
- (b) Credits shall expire 10 years after they are granted.
- (c) Expiration of the credits, the applicant may apply for new credits. The competent authority shall continue the validity of the credits for an additional period of 10 years without further consideration if basic knowledge requirements defined in IS 2.6.1.7 to this Part have not been changed.

SUBPART F - CONTINUING OVERSIGHT

- (a) This Subpart describes the procedures for the continuing oversight of the aircraft maintenance licence and in particular for the revocation, suspension or limitation of the aircraft maintenance licence.

2.6.2.21 Revocation, suspension or limitation of the aircraft maintenance licence

- (a) The Authority shall suspend, limit or revoke the aircraft maintenance licence where it has identified a safety issue or if it has clear evidence that the person has carried out or been involved in one or more of the following activities:
1. obtaining the aircraft maintenance licence and/or the certification privileges by falsification of documentary evidence;
 2. failing to carry out requested maintenance combined with failure to report such fact to the organisation or person who requested the maintenance;
 3. failing to carry out required maintenance resulting from own inspection combined with failure to report such fact to the organisation or person for whom the maintenance was intended to be carried out;
 4. negligent maintenance;
 5. falsification of the maintenance record;
 6. issuing a certificate of release to service knowing that the maintenance specified on the certificate of release to service has not been carried out or without verifying that such maintenance has been carried out;
 7. carrying out maintenance or issuing a certificate of release to service when adversely affected by alcohol or drugs;
 8. Issuing certificate of release to service while not in compliance with Part 5, Part 6 or Part 3.

2.6.3 DESIGNATED AVIATION MECHANIC EXAMINERS

2.6.3.1 GENERAL REQUIREMENTS

- (a) Age. An applicant for a designated mechanic examiner shall be at least 23 years of age.
- (b) Medical. There are no medical requirements for a mechanic examiner.
- (c) General eligibility.
- 1) Show evidence of a high level of aeronautical knowledge in the subject areas for AMT certification in both reciprocating and turbine engine aircraft.
 - 2) Have held a valid AMT certificate with the ratings for which a designation is to issue for five years.
 - 3) Have been actively exercising the privileges of that AMT certificate in the previous three years.

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- 4) Have a good record as an AMT and a person engaged in the industry and community with a reputation for honesty and dependability.
 - 5) The applicant must have for test conducted using the skill test, in accordance with IS 2.6.1.11.
 - 6) The applicant must have a fixed base of operation; equipment and materials must be adequate for an applicant to demonstrate the basic skills of the rating sought.
 - 7) The applicant must have an airworthy aircraft, other aircraft, aircraft subassemblies, operational mock-ups, and other aids that may be used for testing.
 - 8) The applicant must have tools, equipment, material, current publications, and necessary apparatus required to complete a project assignment must be the type recommended by the aircraft manufactures or accepted in the aviation industry.

2.6.3.2 KNOWLEDGE

- (a) The applicant shall pass a pre-designation test on the following:
 - 1) Air Law and Regulations for AMT personnel.
 - 2) Current practices for the fleet of aircraft to be utilised.
 - 3) Best industry practices.
 - 4) Recent improvement in technology, testing and tooling.

2.6.3.3 SKILL

- (a) The applicant shall be observed conducting a complete, actual skill test using the approved Skill Test Standards (STS) in a satisfactory manner.
- (b) The applicant shall be observed completing the required documentation required by the Authority in a satisfactory manner.

2.6.3.4 CURRENCY

- (a) After designation, a Designated Maintenance Technician Examiner shall maintain currency by
- (b) Attending initial and recurrent training conducted by the Authority, and
- (c) Maintaining a current and valid AMT licence and applicable ratings.
- (d) The Designated AMT Examiner shall conduct at least 3 skill test during any 12 calendar month period in order to the designation remain current.
- (e) The Designated AMT Examiner shall be observed by the Authority in the conduct of skill test at least once each 12 calendar months.

2.6.3.5 PRIVILEGES

- (a) The Designated AMT Examiner may conduct AMT skill tests for which he/ she is designated in accordance with the Skill Test Standards as incorporated in IS 2.6.1.11.

2.6.3.6 VALIDITY

- (a) The Designated AMT Examiner designation shall be valid for one year.

2.6.3.7 RENEWAL

- (a) The Designated AMT Examiner designation may be renewed by Authority if:
- (b) The need for the designation remains valid.
- (c) The performance of the Designated AMT Examiner has been satisfactory.
- (d) The AMT examiner has attended the Designated AMT Examiner training conducted by the Authority in the previous 12 calendar months.

2.7 AIR TRAFFIC CONTROLLER LICENCES, CATEGORIES AND RATINGS

2.7.1 APPLICABILITY

- (a) This section prescribes the requirements for the issue, renewal and re-issue of an air traffic controller licence and ratings.

2.7.2 GENERAL

- (a) An applicant shall, before being issued with an air traffic controllers licence, meet such requirements in respect of age, knowledge, experience, skill, medical fitness and language proficiency as are specified for that licence or rating.
- (b) An applicant shall for renewal or re-issue of a licence, rating or authorisation meet the requirements as are specified for that licence, rating or authorisation.

2.7.3 AIR TRAFFIC CONTROLLER LICENCE AND RATINGS

2.7.3.1 STUDENT AIR TRAFFIC CONTROLLER

- (a) Authority shall take the appropriate measures to ensure that student air traffic controllers do not constitute a hazard to air navigation.
- (b) Medical fitness. Authority shall not permit a student air traffic controller to receive instruction in an operational environment unless that student air traffic controller holds a current Class 3 Medical Certificate.
- (c) Have demonstrated competence in the ability to speak and understand the English Language to at least Level 4 of the ICAO Language Proficiency Rating scale.

2.7.3.2 AIR TRAFFIC CONTROLLER LICENCE

- (a) Age. The applicant for an air traffic controller licence shall be not less than 21 years of age.
- (b) Medical. The applicant for an air traffic controller licence shall hold a Class 3 medical certificate issued under this Part.

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- (c) Knowledge. The applicant for an air traffic controller licence shall receive knowledge instruction through an approved training course on the knowledge areas appropriate to the holder of an air traffic controller licence:
- (1) Air law:
 - (i) Rules and regulations relevant to the air traffic controller.
 - (2) Air traffic control equipment:
 - (i) Principles, use and limitations of equipment used in air traffic control.
 - (3) General knowledge:
 - (i) Principles of flight; principles of operation and functioning of aircraft, powerplants and systems, aircraft performances relevant to air traffic control operations.
 - (4) Human performance: including principles of threat and error management;
 - (5) Meteorology:
 - (i) Aeronautical meteorology, use and appreciation of meteorological documentation and information, origin and characteristics of weather phenomena affecting flight operations and safety, altimetry.
 - (6) Navigation:
 - (i) Principles of air navigation, principle, limitation and accuracy of navigation systems and visual aids.
 - (7) Operational procedures:
 - (i) Air traffic control, communication, radiotelephony and phraseology procedures (routine, non-routine and emergency), use of the relevant aeronautical documentation, safety practices associated with flight.
- (d) Knowledge testing. An applicant for an air traffic controller licence shall:
- (1) Have received an endorsement for the knowledge test from an authorised instructor who:
 - (i) Conducted the training on the knowledge areas; and
 - (ii) Certifies that the person is prepared for the required knowledge test.
 - (2) Pass the required knowledge test.
- (e) 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 paragraph 2.7.3.3 will be credited as part of the experience specified in this paragraph.
- (f) Validity. Subject to compliance with the requirement specified in this Part, the validity period of the licence is 5 years.

2.7.3.3 AIR TRAFFIC CONTROLLER RATINGS

- (a) Air traffic controller ratings shall comprise the following categories:
- (1) Aerodrome control rating(ADC);
 - (2) Approach control procedural rating (APP);

- (3) Approach control surveillance rating (APS);
 - (4) Approach precision radar control rating (RAD);
 - (5) Area control procedural rating (ACP);
 - (6) Area Control Surveillance Rating (ACS).
- (b) Knowledge. The applicant for an air traffic controller rating shall receive knowledge instruction through an approved training course on the knowledge areas appropriate to the holder of an air traffic controller rating on the subjects as specified below for each rating sought:
- (1) Aerodrome control rating:
 - (i) Aerodrome layout, physical characteristics and visual aids;
 - (ii) Airspace structure;
 - (iii) Applicable rules, procedures and source of information;
 - (iv) Air navigation facilities;
 - (v) Air traffic control equipment and its use;
 - (vi) Terrain and prominent landmarks;
 - (vii) Characteristics of air traffic;
 - (viii) Weather phenomena;
 - (ix) Emergency and search and rescue plans.
 - 2) Approach control procedural and area control procedural ratings:
 - (i) Airspace structure;
 - (ii) Applicable rules, procedures and source of information;
 - (iii) Air navigation facilities;
 - (iv) Air traffic control equipment and its use;
 - (v) Terrain and prominent landmarks;
 - (vi) Characteristics of air traffic and traffic flow;
 - (vii) Weather phenomena;
 - (viii) Emergency and search and rescue plans.
 - 3) Approach control surveillance, approach precision radar control and area control surveillance ratings. The applicant shall meet the requirements specified in (2) 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:
 - (i) Principles, use and limitations of applicable ATS surveillance systems and associated equipment; and
 - (ii) Procedures for the provision of ATS surveillance services, as appropriate, including procedures to ensure appropriate terrain clearance.
- (c) Knowledge testing. An applicant for an air traffic controller rating shall:
- (1) Have received an endorsement for the knowledge test from an authorised instructor who:
 - (i) Conducted the training on the knowledge areas; and
 - (ii) Certifies that the person is prepared for the required knowledge test; and

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- (2) Pass the required knowledge test.
- (d) Experience. The applicant for an air traffic controller licence shall have:
- (1) Satisfactorily completed an approved training course;
 - (2) Provided, satisfactorily, under the supervision of an appropriately rated air traffic controller:
 - (i) 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.
 - (ii) Approach control procedural, approach control surveillance, area control procedural or area control surveillance 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.
 - (iii) 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 Authority. 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.
 - (3) If the privileges of the approach control surveillance rating include surveillance radar approach duties, the experience shall include not less than 25 plan position indicator 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.
 - (4) The experience specified under (2)(ii) shall have been completed within the 6-month period immediately preceding application.
- (e) Skill. The applicant shall have demonstrated by passing the required skill test, at a level appropriate to the privileges being granted, the skill, judgment and performance required to provide a safe, orderly and expeditious control service, including the recognition and management of threats and errors.
- (f) Privileges and limitations.
- (1) Subject to compliance with the requirements specified in this Part, the privileges of the holder of an air traffic controller licence with the following applicable rating(s) 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 procedural rating: to provide or to supervise the provision of approach 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 control surveillance rating: to provide and/or supervise the provision of approach control service with the use of applicable ATS surveillance systems 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.
- Note: Subject to compliance with the provisions of (d)(2)(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 procedural 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.
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- (vi) Area radar control surveillance rating: to provide and/or supervise the provision of area control service with the use of an ATS surveillance system, within the control area or portion thereof, for which the licence holder is rated.
 - (2) Before exercising the privileges indicated in (d)(1), the licence holder shall be familiar with all pertinent and current information.
 - (3) A holder of an air traffic controller licence and ratings(s) shall not provide instruction in an operational environment unless the licence holder has received proper authorisation from the Authority.
- (g) 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 of 6 months. A rating shall remain invalid until the controller's ability to exercise the privileges of the rating has been re-established.

2.7.4 DESIGNATED ATCO EXAMINERS

2.7.4.1 REQUIREMENTS AND SKILL TEST

- (a) Age. An applicant for a designated ATCO examiner shall be at least 21 years of age.
- (b) Medical. An applicant for a designated ATCO examiner shall have a Class 3 medical certificate.
- (c) General eligibility. An applicant for a designated ATCO examiner shall:
 - (1) Hold at least the licence and/or class/type ratings as applicable for which examining authority is sought;
 - (2) Hold at least the instructor ratings for which examining authority is sought or be serving in a comparable position as an check ATCO or comparable position in an Approved Training Organisation;
 - (3) Have a reputation for integrity and dependability in the industry and the community;
 - (4) Have a good record as a ATCO and an instructor in regards to accidents, incidents, and violations; and
 - (5) Have air traffic controller licence/ratings that have never been revoked for falsification or forgery;
 - (6) Consistently shown satisfactory performance in the provision of Air Traffic Services.
- (d) The ATCO recommended for approval as Examiner shall be known for his / her impartiality, free from prejudices and strong likes and dislikes and capable of recording just and fair assessment.
- (e) The ATCO recommended for approval as Examiner shall be capable of instilling high standard of discipline in the profession.
- (f) The ATCO once approved as Examiner may be disqualified by the Authority if subsequently found lacking in any of the aforesaid qualities. Besides, the Chief of Air Traffic Management and the Chief of ATC Training from the concerned organisation may recommend to the Authority the disqualification of an Examiner ATCO giving adequate justification.
- (g) In case adequate numbers of ATCOs meeting fully the criteria in this Part are not available, the Authority may in its discretion enpanel the appropriate skills of several ATCOs to conduct the complete testing of candidates as necessary.
- (h) Knowledge: The applicant for a designated ATCO examiner shall complete a designated training course in air traffic services and the current ATC ratings in the relevant air traffic control units i.e Tower, Area, Approach , Approach Radar and Area Radar, as relevant, for the specific area for which designation is sought.

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- (i) Skill test. The applicant for a designated ATCO examiner shall undergo check by the Authority nominated ATCO examiner for proficiency as ATCO examiner before granting approval.
 - (j) Maintaining currency. After designation, a designated ATCO examiner shall maintain currency by:
 - (1) Attending initial and recurrent training provided by the Authority, and
 - (2) Maintain a current and valid:
 - (i) ATC licence, and if applicable, class/type ratings appropriate to the designation; and
 - (ii) Class 3 medical certificate.
 - (k) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the examiner's designation are to conduct skill tests and proficiency checks for a licence and rating(s) as listed below;
 - (i) To conduct skill test for issue and renewal of ATC ratings;
 - (ii) Training of Instructor / Examiner ATCO candidates; and
 - (iii) To exercise privileges of an ATCO Instructor.
 - (l) Validity. Subject to compliance with the requirements specified in this Part, the validity period of an examiner's designation is 3 years from the date of approval unless suspended / withdrawn earlier by the Authority.
 - (m) Renewal.
 - (1) Renewal will be at the discretion of the Authority.
 - (2) The renewal for approval of Designated ATCO Examiner shall also be subject to check by the Authority nominated Designated Examiner.
 - (n) Additional designations. When the Authority deems it necessary for a designated ATCO examiner to receive additional designations, the designated ATCO examiner:
 - (1) Shall meet all the requirements in this Part for the designation;

2.7.4.2 MINIMUM EXPERIENCE REQUIREMENTS

- a) Experience ATCO Examiner:
 - (i) Total ATC experience of 5 years, having current procedural Tower, Approach and Area Control Centre ratings for approval as Procedural Examiner ATCO.
 - (ii) Total ATC experience of 8 years and having Current Radar ratings including proficiency in Radar Data Processing System and Flight Data Processing System for automated systems where applicable for approval as Radar Examiner ATCO.
 - (iii) Current Experience as an Instructor ATCO in the relevant ATC unit/s for 2 years at the specific station for which the approval is sought.

Note: Other qualifications being equal, preference will be given to the ATCOs who have held the ATC ratings for more than one station.

2.7.5 DESIGNATED ATCO INSTRUCTOR

2.7.5.1 REQUIREMENTS AND SKILL TEST

- (a) Age. An applicant for a designated ATCO Instructor shall be at least 21 years of age.
- (b) Medical. An applicant for a designated ATCO Instructor shall have a Class 3 medical certificate.
- (c) General eligibility. An applicant for a designated ATCO Instructor shall:

- (1) Hold at least the licence and/or class/type ratings as applicable for which examining authority is sought;
 - (2) Hold at least the instructor rating endorsement for which examining authority is sought or be serving in a comparable position as an check ATCO or comparable position in an Approved Training Organisation;
 - (3) Have a reputation for integrity and dependability in the industry and the community;
 - (4) Have a good record as a ATCO in regard to accidents, incidents, and violations; and
 - (5) Have air traffic controller licence/ratings that have never been revoked for falsification or forgery;
 - (6) Consistently shown satisfactory performance in the provision of Air Traffic Services.
- (d) The ATCO recommended for approval as Instructor shall be known for his / her impartiality, free from prejudices and strong likes and dislikes and capable of recording just and fair assessment.
- (e) The ATCO recommended for approval as Instructor shall be capable of instilling high standard of discipline in the profession.
- (f) The ATCO once approved as Instructor may be disqualified by Authority if subsequently found lacking in any of the aforesaid qualities. Besides, the Chief of Air Traffic Management and the Chief of ATC Training from the concerned organization may recommend to the Authority the disqualification of an ATCO Instructor giving adequate justification.
- (g) In case adequate number of ATCOs meeting fully the criteria laid down in this Part are not available, the Authority may in its discretion enpanel the appropriate skills of several ATCOs to conduct the complete testing of candidates as necessary.
- (h) Knowledge: The applicant for a designated ATCO Instructor shall complete a designated training course in air traffic services and the current ATC ratings in the relevant air traffic control units i.e Tower, Area, Approach, Approach Radar and Area Radar, as relevant, for the specific area for which designation is sought.
- (i) Skill test. The applicant for a designated ATCO Instructor shall undergo check by Authority nominated Examiner ATCO for proficiency as Instructor ATCO before granting approval.
- (j) Maintaining currency. After designation, a designated ATCO Instructor shall maintain currency by:
- (1) Attending initial and recurrent training provided by the Authority, and
 - (2) Maintain a current and valid:
 - (i) ATC licence, and if applicable, class/type ratings appropriate to the designation; and
 - (ii) Class 3 medical certificate.
- (k) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the examiner's designation are to conduct skill tests and proficiency checks for a licence and rating(s) as listed below;
- Instructor
- (i) Training of ATCOs for issue and renewal of ATC ratings.
 - (ii) To evaluate and assess the required level of competence of air traffic controllers undergoing On-the-Job Training.
 - (iii) To conduct proficiency checks of ATCOs who already hold the ATC rating;
 - (iv) To monitor performance of ATCOs.

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- (l) Validity. Subject to compliance with the requirements specified in this Part, the validity period of an Instructor's designation is 3 years from the date of approval unless suspended / withdrawn earlier by the Authority.
 - (m) Renewal.
 - (1) Renewal will be at the discretion of the Authority.
 - (2) The renewal for approval of Designated ATCO Instructor shall also be subject to check by the Authority nominated Designated Instructor.
 - (n) Additional designations. When the Authority deems it necessary for a designated ATCO Instructor to receive additional designations, the designated ATCO Instructor:
 - (1) Shall meet all the requirements in this Part for the designation;

2.7.5.2 MINIMUM EXPERIENCE REQUIREMENTS

Experience ATCO Instructor:

- (i) Total ATC experience of 2 years, having current procedural Tower, Approach or Area Control Centre ratings for approval as Procedural Instructor ATCO;
- (ii) Total ATC experience of 5 years having Current Radar ratings including proficiency in Radar Data Processing System and Flight Data Processing Systems for automated systems where applicable, for approval as Radar Instructor ATCO.

Note: Other qualifications being equal, preference will be given to the ATCOs who have held the ATC ratings for more than one station.

2.8 FLIGHT DISPATCHER LICENCE, INSTRUCTORS, AND DESIGNATED EXAMINERS

2.8.1 APPLICABILITY

- (a) This section prescribes the requirements for the issue, renewal and re-issue of a flight dispatcher licence, instructors for flight dispatcher officer licences and designation of flight dispatcher examiner.

2.8.2 GENERAL

- (a) An applicant shall, before being issued with a flight dispatcher licence, meet such requirements in respect of age, knowledge, experience, skill, medical fitness and language proficiency as are specified for that licence.
- (b) An applicant shall for renewal or re-issue of a licence meet the requirements as are specified for that licence.
- (c) An applicant shall demonstrate the ability to read, write, speak, and understand the English language as required by the Authority.

2.8.3 FLIGHT DISPATCHER LICENCE

2.8.3.1 GENERAL REQUIREMENTS

- (a) Age. The applicant for a flight dispatcher licence shall be not less than 21 years of age.
- (b) Knowledge. The applicant for a flight dispatcher licence shall receive and log training from an authorised instructor on following subjects appropriate to the privileges of the flight dispatcher:
 - (1) Air Law:
 - (i) Rules and regulations relevant to the holder of a dispatcher officer licence; and
 - (ii) Appropriate air traffic services practices and procedures.
 - (2) Aircraft general knowledge:
 - (i) Principles of operation of aeroplane powerplants, systems and instruments;
 - (ii) Operating limitations of aeroplanes and powerplants; and
 - (iii) Minimum equipment list.
 - (3) Flight performance calculation, planning procedures and loading:
 - (i) Effects of loading and mass distribution on aircraft performance and flight characteristics, mass and balance calculations;
 - (ii) Operational flight planning, fuel consumption and endurance calculations, alternate airport selection procedures, en-route cruise control, extended range operation;
 - (iii) Preparation and filing of air traffic services flight plans; and
 - (iv) Basic principles of computer-assisted planning systems.
 - (4) Human performance:
 - (i) Human performance relevant to dispatch duties, including principles of threat and error management.
 - (5) Meteorology:
 - (i) Aeronautical meteorology, the moment 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.
 - (ii) Interpretation and application of aeronautical meteorological reports, charts and forecasts, codes and abbreviations, use of, and procedures for obtaining, meteorological information.
 - (6) Navigation:
 - (i) Principles of air navigation with particular reference to instrument flight.
 - (7) Operational procedures:
 - (i) Use of aeronautical documentation;
 - (ii) Operational procedures for the carriage of freight and dangerous goods;
 - (iii) Procedures relating to aircraft accidents and incidents, emergency flight procedures;
 - (iv) Procedures relating to unlawful interference and sabotage of aircraft;
 - (8) Principles of flight:
 - (i) Principles of flight relating to the appropriate category of aircraft.

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- (9) Radio communication:
- (i) Procedures for communicating with aircraft and relevant ground stations.
- (c) The applicant for the Flight Dispatcher licence shall:
- (1) Have received an endorsement for the knowledge test from an authorised instructor who:
 - (i) Conducted the training on the knowledge areas; and
 - (ii) Certifies that the person is prepared for the required knowledge test.
 - (2) Pass the required knowledge test.
- (d) Experience.
- (1) The applicant for a flight dispatcher licence shall have gained the following experience:
 - (i) A total of 2 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 crewmember in air transportation; or
 - (B) A meteorologist in an organisation dispatching aircraft in air transportation; or
 - (C) An air traffic controller; or a technical supervisor of flight dispatcher or air transportation flight operations systems.
 - (ii) At least one year as an assistant in the dispatching of air transport.
 - (iii) Have satisfactorily completed a course of approved training.
 - (2) The applicant shall have served under the supervision of a flight dispatcher for at least 90 working days within the 6 months immediately preceding the application.
- (e) Skill. The applicant shall have demonstrated the ability, by passing a skill test on the subjects listed in IS 2.8.3.2 to:
- (1) 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.
 - (2) Determine the optimum flight path for a given segment, and create accurate manual and/or computer generated flight plans.
 - (3) Provide operating supervision and all other assistance to a flight in actual or simulated adverse weather conditions as appropriate to the duties of the holder of a flight dispatcher licence.
 - (4) Recognise and manage threats and errors.
- (f) Privileges. Subject to compliance with the requirements specified in this Part, the privileges of the holder of a flight dispatcher licence shall be to serve in that capacity with responsibility for each area for which the applicant meets the requirements in ICAO Annex 6, as contained in Parts 8 and 9 of these regulations.
- (g) Validity. The validity period of the licence is 5 years. A licence shall become invalid when a flight dispatcher has ceased to exercise the privileges of the licence for a period of 6 months. A licence shall remain invalid until the flight dispatcher's ability to exercise the privileges of the licence has been re-established.
- (h) Renewal. The Flight Dispatcher Licence may be renewed by presenting to the Authority evidence of successfully passing a competency check on the areas of operation listed in IS: 2.8.3.2.
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- (i) Reissue. If the Flight Dispatcher Licence has expired, the applicant shall have received refresher training acceptable to the Authority and passed a skill test on the areas of operation contained in IS 2.8.3.2.

2.8.3.2 SKILL TEST FOR THE FLIGHT DISPATCHER LICENCE

- (a) Implementing Standard (IS) 2.8.3.2 contains the list of operations included in the flight dispatcher licence skill test.

2.8.4 INSTRUCTORS FOR FLIGHT DISPATCHER

2.8.4.1 REQUIREMENTS FOR FLIGHT DISPATCHER INSTRUCTOR LICENCE

- (a) Age. An applicant for Flight Dispatcher instructor licence and rating shall be at least 21 years of age.
- (b) Knowledge.
 - 1) An applicant for a Flight Dispatcher instructor licence shall have met the instructor requirements in 2.2.6 of this part; and
 - 2) Any additional requirements as may be specified by the Authority.
- (c) Experience. The applicant for a Flight Dispatcher instructor licence shall hold at least a current and valid Flight Dispatcher licence and have a minimum of three years experience as a Flight Dispatcher.
- (d) Privileges. The privileges of a Flight Dispatcher instructor licence are to give instruction to Flight Dispatcher licence applicants and to endorse those applicants for a knowledge or skill test as applicable.
- (e) Validity. Subject to compliance with the requirements specified in this Part, the validity period of the Flight Dispatcher instructor licence is 2 years.
- (f) Renewal. A Flight Dispatcher instructor licence that has not expired may be renewed for an additional 24 calendar months if the holder presents to the Authority evidence that he/she has within the past 12 months preceding the expiry date :
 - (1) Conducted at least six exercises in an approved course for a Flight Dispatcher licence; or
 - (2) Received refresher training acceptable to the Authority.
- (g) Reissue. If the Flight Dispatcher instructor licence has expired, the applicant shall have received refresher training acceptable to the Authority.

2.8.5 DESIGNATED EXAMINERS FOR FLIGHT DISPATCHER

2.8.5.1 GENERAL REQUIREMENTS

- (a) Age. An applicant for a flight dispatcher examiner licence shall be at least 23 years of age.
- (b) General eligibility.
 - (1) Show evidence of a high level of aeronautical knowledge in the subject areas for the Flight Dispatcher (FD) certification.
 - (2) Have held a FD licence for at least five years prior to the designation.

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- (3) Have been actively exercising the privileges of the FD licence in commercial air transport in the previous three years.
 - (4) Have a good record as a FD and a person engaged in the industry and community with a reputation for honesty and dependability.
 - (5) Have satisfactorily completed the FD examiner orientation programme with the Authority.
 - (6) The applicant must have available a test site that is fully capable of doing all items required for the proper dispatch of a commercial flight in accordance with the regulatory requirements. This may be the Flight Operations (Dispatch) Office of an active commercial airline.

2.8.5.2 KNOWLEDGE

- (a) The applicant shall have passed a pre-designation test on the following:
 - (1) Air Law and Regulations for FD personnel;
 - (2) Aircraft knowledge on the aircraft used for testing;
 - (3) Flight performance calculation and planning procedures;
 - (4) Human performance;
 - (5) Meteorology;
 - (6) Navigation;
 - (7) Radio communication;
 - (8) Recent changes in technology to include fly by wire aircraft systems, GPS navigation, required navigation performance (RNP) requirements, TCAS, ADS-B, as well and Enhanced Wind Shear Systems.

2.8.5.3 SKILL

- (a) The Authority shall observe the applicant conducting a complete actual FD certification using the approved STS in a satisfactory manner.
- (b) The applicant shall complete all required paper work for the certification as required by the Authority.

2.8.5.4 CURRENCY

- (a) After designation, a FD examiner shall maintain currency by
 - (1) Attending initial and recurrent training conducted by the Authority, and
 - (2) Maintaining a current and valid FD licence.
- (b) The FD examiner shall conduct at least 6 skill tests during any 12 calendar month period in order for the designation to remain current.
- (c) The FD examiner shall be observed by the Authority in the conduct of a skill test at least once each 12 calendar months.

2.8.5.5 PRIVILEGES

- (a) The FD examiner may conduct Skill test for the Flight Dispatcher licence in accordance with approved STS standard.
- (b) The FD examiner may conduct or monitor any portion of a computerised knowledge test.

2.8.5.6 VALIDITY

- (a) The FD examiner licence shall be valid for three years.

2.8.5.7 RENEWAL

- (a) The FD examiner designation may be renewed by the Authority if:
 - (1) The need for the designation remains valid;
 - (2) The performance of the examiner has been satisfactory.

2.9 AERONAUTICAL METEOROLOGICAL PERSONNEL

2.9.1 RESERVED

2.9.2 RESERVED

2.9.3 RESERVED

2.9.4 AERONAUTICAL METEOROLOGICAL PERSONNEL

The requirements for training and qualifications for all aeronautical meteorological personnel are the responsibility of the World Meteorological Organisation (WMO) in accordance with the Working Arrangements between the International Civil Aviation Organisation and the WMO (Doc 7475). The requirements can be found in WMO Document 258 – Guidelines for the education and training of personnel in meteorology and operational hydrology – Vol. 1: Meteorology.

2.10 PARACHUTE RIGGER LICENCES, INSTRUCTORS AND DESIGNATED PARACHUTE RIGGER EXAMINERS

2.10.1.1 APPLICABILITY

- (a) This Subpart prescribes the requirements for issuance of a parachute rigger licences and ratings, and the conditions under which those licences and ratings are necessary.

2.10.1.2 ELIGIBILITY REQUIREMENTS: GENERAL

- (a) To be eligible for a parachute rigger licence, a person shall:
- (b) Be at least 18 years of age.
- (c) Be able to read, speak, write, and understand the Curaçao language, and English if required by the Authority.
- (d) Comply with the sections of this subpart that apply to the licence and type rating he or she seeks.

2.10.1.3 LICENCE REQUIRED

- (a) No person may pack, maintain, or alter any personnel-carrying parachute intended for emergency use in connection with civil aircraft of Curaçao unless he or she holds an appropriate current licence and type rating issued under this Subpart and complies with this Subpart.
- (b) Except as allowed by paragraph (c) of this subsection, no person may pack, maintain, or alter any main parachute of a dual parachute pack to be used for intentional jumping from a civil aircraft of Curaçao unless he or she has an appropriate valid licence issued under this Subpart.
- (c) A person who does not hold a licence may pack the main parachute of a dual parachute pack that is to be used by him or her for intentional jumping.
- (d) Each person who holds a parachute rigger licence shall present it for inspection upon the request of the Authority or an authorised representative of the Director General Office, or any Federal, State or local law enforcement officer.
- (e) The following parachute rigger licences are validated under this part:
 - (1) Senior parachute rigger.
 - (2) Master parachute rigger.
- (f) Sections 2.10.1.9 through 2.10.1.12 do not apply to parachutes packed, maintained, or altered for the use of the *armed forces*.

2.10.1.4 SENIOR PARACHUTE RIGGER LICENCE—EXPERIENCE, KNOWLEDGE, AND SKILL REQUIREMENTS

- (a) An applicant for a senior parachute rigger licence shall:
- (b) Present evidence satisfactory to the Authority that he or she has packed at least 20 parachutes of each type for which he or she seeks a rating, in accordance with the manufacturer's instructions and under the supervision of a licensed parachute rigger holding a rating for that type or a person holding an appropriate military rating.
- (c) Pass a knowledge test, with respect to a parachute applicable to at least one type parachute appropriate to the type rating sought, on:
 - (1) Construction, packing, and maintenance;
 - (2) The manufacturer's instructions; and
 - (3) The regulations of this Subpart.
- (d) Pass skill test showing the ability to pack and maintain at least one type of parachute appropriate to the type rating sought. Requirements for the skill test are contained in IS 2.10.1.4.

2.10.1.5 MASTER PARACHUTE RIGGER LICENCE—EXPERIENCE, KNOWLEDGE, AND SKILL REQUIREMENTS

- (a) An applicant for a master parachute rigger licence shall meet the following requirements:

- (1) Present evidence satisfactory to the Authority of at least 3 years of experience as a parachute rigger and having satisfactorily packed at least 100 parachutes of each of two types appropriate to type ratings held, in accordance with the manufacturer's instructions:
 - (i) While a licensed and appropriately rated senior parachute rigger; or
 - (ii) While under the supervision of a licensed and appropriately rated parachute rigger or a person holding appropriate military ratings.
 - (iii) An applicant may combine experience specified in paragraphs (a) (1) and (2) of this paragraph to meet the requirements of this subsection.
- (2) If the applicant is not the holder of a senior parachute rigger licence, pass a knowledge test, with respect to parachutes appropriate to the type rating sought, on:
 - (i) Their construction, packing, and maintenance;
 - (ii) The manufacturer's instructions; and
 - (iii) The regulations of this Subpart.
- (3) Pass skill test showing the ability to pack and maintain two types of parachutes appropriate to the type ratings sought. Requirements for the skill test are contained in IS 2.10.1.5.

2.10.1.6 TYPE RATINGS

- (a) The following type ratings are issued under this subpart:
 - (1) Seat.
 - (2) Back.
 - (3) Chest.
 - (4) Lap.
- (b) The skill test requirements for a type rating are contained in IS 2.10.1.6.
- (c) The holder of a senior parachute rigger licence who qualifies for a master parachute rigger licence is entitled to have placed on the senior parachute rigger licence the ratings that were on the parachute rigger licence.

2.10.1.7 ADDITIONAL TYPE RATINGS: REQUIREMENTS

- (a) A licensed parachute rigger who applies for an additional type rating shall:
 - (1) Present evidence satisfactory to the Authority of having packed at least 20 parachutes of the type rating sought, in accordance with the manufacturer's instructions and under the supervision of a licensed parachute rigger holding a rating for that type or a person holding an appropriate military rating; and
 - (2) Pass a skill test, to the satisfaction of the Authority, showing the ability to pack and maintain the type of parachute for which the applicant seeks a rating.

2.10.1.8 PRIVILEGES

- (a) A licensed senior parachute rigger may:
 - (1) Pack or maintain (except for major repair) any type of parachute for which he or she is rated; and
 - (2) Supervise other persons in packing any type of parachute for which he or she is rated.
- (b) A licensed master parachute rigger may:

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- (1) Pack, maintain, or alter any type of parachute for which he or she is rated; and
 - (2) Supervise other persons in packing, maintaining, or altering any type of parachute for which he or she is rated.
- (c) A licensed parachute rigger need not comply with 2.10.1.9 through 2.10.1.12 (related to facilities, equipment, performance standards, records, recent experience, and seal) in packing, maintaining, or altering (if authorised) the main parachute of a dual parachute pack to be used for intentional jumping.

2.10.1.9 FACILITIES AND EQUIPMENT

- (a) No licensed parachute rigger shall exercise the privileges of his licence unless he or she has at least the following facilities and equipment available:
- (1) A smooth top table at least three feet wide by 40 feet long;
 - (2) Suitable housing that is adequately heated, lighted, and ventilated for drying and airing parachutes;
 - (3) Enough packing tools and other equipment to pack and maintain the types of parachutes serviced; and
 - (4) Adequate housing facilities to perform applicable duties and to protect tools and equipment.

2.10.1.10 PERFORMANCE STANDARDS AND REGENCY REQUIREMENTS

- (a) No licensed parachute rigger may:
- (1) Pack, maintain, or alter any parachute unless he or she is rated for that type;
 - (2) Pack a parachute that is not safe for emergency use;
 - (3) Pack a parachute that has not been thoroughly dried and aired;
 - (4) Alter a parachute in a manner that is not specifically authorised by the Authority or the manufacturer;
 - (5) Pack, maintain, or alter a parachute in any manner that deviates from procedures approved by the Authority or the manufacturer of the parachute; or
 - (6) Exercise the privileges of the licence and type rating unless he or she understands the current manufacturer's instructions for the operation involved and has:
 - (i) Performed duties under the licence for at least 90 days within the preceding 12 months; or
 - (ii) Shown to the Authority the ability to perform those duties.

2.10.1.11 RECORDS

- (a) Each licensed parachute rigger shall keep a record of the packing, maintenance, and alteration of parachutes performed or supervision of those activities.
- (b) Each licensed parachute rigger who packs a parachute shall enter on the parachute packing record attached to the parachute, the date and place of the packing, a notation of any defects found during any inspection, and shall sign that record with his or her name and licence number.
- (c) Each parachute rigger shall sign the record required by paragraph (b) of this subsection with the name and the number of his or her licence.
- (d) The record required by paragraph (a) of this subsection shall contain, with respect to each parachute worked on, a statement of:

- (1) Its type and make;
 - (2) Its serial number;
 - (3) The name and address of its owner or user;
 - (4) The kind and extent of the work performed;
 - (5) The date when and place where the work was performed; and
 - (6) The results of any drop tests made with it.
- (e) Each person who makes a record under paragraph (a) of this subsection shall keep it for at least 2 years after the date it is made.

2.10.1.12 SEAL

- (a) Each licensed parachute rigger shall have a seal with an identifying mark prescribed by the Authority, and a seal press.
- (b) After packing a parachute, the parachute rigger shall seal the pack with his or her seal in accordance with the manufacturer's recommendation for that type of parachute.

2.10.1.13 DURATION OF PARACHUTE RIGGER LICENCE

- (a) **Validity:** The validity period of the licence is five years. A licence shall become invalid when a parachute rigger has ceased to exercise the privileges of the licence for a period of 6 months. A licence shall remain invalid until the parachute rigger's ability to exercise the privileges of the licence has been re-established.
- (b) **Renewal.** An parachute rigger licence that has not expired may be renewed for an additional five years if the holder presents to the Authority evidence that he/she has within the past 6 months preceding the expiry date :
 - (1) Be actively engaged in the duties of a parachute rigger, or
 - (2) Received refresher training acceptable to the Authority.
- (c) **Reissue.** If the parachute rigger licence has expired, the applicant shall have received refresher training acceptable to the Authority and pass a skill test on the areas of operations in either IS 2.10.1.4, IS 2.10.1.5, or IS 2.10.1.6, as applicable to the licence and ratings to be renewed.

2.10.1.14 DISPLAY OF LICENCE

- (a) Each person who holds a parachute rigger licence shall keep it within the immediate area where he/she normally exercises the privileges of the licence and shall present it for inspection upon the request of the Authority or an authorised representative of the Director General, or any Federal, State, or local law enforcement officer.

2.10.2 PARACHUTE RIGGER INSTRUCTOR REQUIREMENTS

2.10.2.1 REQUIREMENTS FOR A PARACHUTE RIGGER INSTRUCTOR LICENCE

- (a) **Age.** An applicant for parachute rigger instructor licence and rating shall be at least 21 years of age.
- (b) **Knowledge.**
 - (1) An applicant for a parachute rigger instructor licence shall have met the instructor requirements in 2.2.6 of this part; and
 - (2) Any additional requirements as may be specified by the Authority.

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- (c) Experience. The applicant for a parachute rigger instructor licence shall hold at least a current and valid parachute rigger licence and ratings applicable to the instructor licence sought, and have a minimum of three years' experience as a parachute rigger.
 - (d) Privileges. The privileges of a parachute rigger instructor licence and rating are to give instruction to parachute rigger licence applicants and to endorse those applicants for a knowledge or skill test as applicable.
 - (e) Validity. Subject to compliance with the requirements specified in this Part, the validity period of the parachute rigger instructor licence is 2 years.
 - (f) Renewal. A parachute rigger instructor licence that has not expired may be renewed for an additional 24 calendar months if the holder presents to the Authority evidence that he/she has within the past 12 months preceding the expiry date:
 - (1) Conducted at least six exercises in an approved course for a parachute rigger licence; or
 - (2) Received refresher training acceptable to the Authority.
 - (g) Reissue. If the parachute rigger instructor licence has expired, the applicant shall have received refresher training acceptable to the Authority.

2.10.3 DESIGNATED PARACHUTE RIGGER EXAMINER REQUIREMENT

2.10.3.1 GENERAL REQUIREMENTS

- (a) Age. An applicant for a Designated Parachute Rigger Examiner (DPRE) licence shall be at least 23 years of age.
- (b) General eligibility.
 - (1) Show evidence of a high level of aeronautical knowledge in the subject areas for the DPRE certification.
 - (2) Have held a DPR licence for at least five years prior to the designation.
 - (3) Have been actively exercising the privileges of the DPR for the previous three years.
 - (4) Have a good record as a DPR and a person engaged in the industry and community with a reputation for honesty and dependability.
 - (5) Have satisfactorily completed the DPRE orientation programme with the Authority.
 - (6) The applicant must have fixed base of operations adequately equipped to all practical Subject Areas to return to service condition.
 - (7) The applicant shall have at the fixed base of operation adequate equipment to test the Tasks in each Area of Operation listed in the STS.
 - (8) The applicant shall have tools, equipment, current publications, and materials required to complete a project assignment as recommended by the parachute manufacture or industry standards.

2.10.3.2 KNOWLEDGE

- (a) The applicant shall have passed a pre-designation test on the following:
 - (1) Air Law and Regulations for DPR personnel.
 - (2) Packing and maintaining a wide variety of parachutes.
 - (3) Alterations of parachutes in accordance with manufactures and industry standards.

- (4) Proper use of Seals for identification purposes.
- (5) Proper record keeping requirements.

2.10.3.3 SKILL

- (a) The Authority shall observe the applicant conducting a complete actual Senior Parachute or Master Parachute Rigger certification using the approved STS in a satisfactory manner.
- (b) The applicant shall complete all required paper work for the certification as required by the Authority.

2.10.3.4 CURRENCY

- (a) After designation, a DPRE shall maintain currency by
 - (1) Attending initial and recurrent training conducted by the Authority, and
 - (2) Maintaining a current and valid parachute rigger licence and applicable ratings.
- (b) The DPRE shall conduct at least 6 skill tests during any 12 calendar month period in order for the designation to remain current.
- (c) The DPRE shall be observed by the Authority in the conduct of a skill test at least once each 12 calendar months.

2.10.3.5 PRIVILEGES

- (a) The DPRE may conduct Skill test for the Senior Parachute Rigger and Master Parachute Rigger licence in accordance with approved STS standard.
- (b) The DPRE may conduct or monitor any portion of a computerised knowledge test.

2.10.3.6 VALIDITY

- (a) The DPRE examiner designation shall be valid for three years.

2.10.3.7 RENEWAL

- (a) The DPRE examiner designation may be renewed by the Authority if:
 - (1) The need for the designation remains valid.
 - (2) The performance of the examiner has been satisfactory.
 - (3) The DPRE examiner has attended the DPRE examiner seminar conducted by the Authority in the previous 12-month period.

2.11 MEDICAL PROVISIONS FOR LICENSING

2.11.1.1 APPLICABILITY

- (a) This Section prescribes the requirements and procedures for issuing, renewing and reissuing Class 1, Class 2 and Class 3 medical certificates.

2.11.1.2 MEDICAL FITNESS

- (a) The applicants for a flight crew licence and air traffic controller licence shall hold a medical certificate issued in accordance with this Part.
- (b) The flight crew members or air traffic controllers shall not exercise the privileges of their licence unless they hold a current medical certificate appropriate to the licence.

2.11.1.3 CIVIL AVIATION MEDICAL EXAMINERS (CAME'S)

- (a) Subject to compliance with the requirements specified in this Part, the Authority may designate qualified and licensed physicians in the practice of medicine, to be authorised as a CAME and conduct medical examinations of fitness of applicants for the issue, renewal or re-issue of the licences or ratings specified in this Part. CAME's may be designated outside of Curaçao.
- (b) CAME's shall have had, or shall receive initial and recurrent training in aviation medicine. Initial training shall include:
 - (1) Basic training in aviation medicine for Class 2 and 3 medical examinations on the subjects listed in IS 2.11.1.3(a); and
 - (2) Advanced training in aviation medicine for Class 1 medical examinations on the subjects listed in IS 2.11.1.3(b).
- (c) CAMEs should acquire knowledge and experience of the conditions in which the holders of licences and ratings carry out their duties

Note: Examples of practical knowledge and experience are flight experience, simulator experience, on-site observation or any other hands-on experience deemed by the Authority to meet this requirement.

- (d) The CAME shall be required to submit sufficient information to the Authority to enable that Authority to undertake Medical Assessments audits.
- (e) The authorisation of a AME is valid for 3 years. The CAME shall have completed at least 10 examinations for a medical certificate per year. Renewal of the CAME designation will be at the discretion of the Authority.
- (f) Having completed the medical examination of an applicant in accordance with this Section, the CAME shall submit a signed report to the Authority, detailing the results of the examination.
- (g) If the medical examination is carried out by a constituted group of CAMEs, the head of the group will be appointed by the Authority, who will be responsible for coordinating the results of the examination and signing the report.

Note : If the medical report is submitted to the Authority in electronic format, adequate identification of the examiner shall be established.

- (h) The Authority retains the right to reconsider any action of a CAME.
- (i) The CAME shall respect medical confidentiality at all times.

- (j) The CAME shall securely hold all medical reports and records with accessibility restricted to authorised personnel.

2.11.1.4 CIVIL AVIATION MEDICAL EXAMINATIONS

- (a) Applicants for licences or ratings for which medical fitness is prescribed shall sign and furnish to the medical examiner a declaration stating whether they have previously undergone such an examination and, if so, the date, place and results of last examination.
- (b) The applicant shall indicate to the medical examiner whether a medical certificate has previously been refused, revoked or suspended and, if so, the reason for such refusal, revocation or suspension.
- (c) Each applicant for a medical certificate shall provide the medical examiner with a personally certified statement of medical facts concerning personal, familial and hereditary history.
- (d) Each applicant for a medical certificate shall produce proof of identification as specified in 2.2.5.5(c).
- (e) Any false declaration to a medical examiner made by an applicant for a licence or rating shall be reported to the Authority for such action as may be considered appropriate.
- (f) The applicant shall complete the appropriate application form as prescribed by the Authority.

2.11.1.5 SPECIAL CIRCUMSTANCES

- (a) If the medical requirements prescribed in Part 2 for a particular licence are not met, the appropriate medical certificate will not be issued, renewed or re-issued unless the following conditions are fulfilled:
 - (1) 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 jeopardise flight safety;
 - (2) Relevant ability, skill and experience of the applicant and operational conditions have been given due consideration; and
 - (3) The licence is endorsed by the Authority 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.
- (b) The CAME shall report to the Authority any individual case where, in the CAME's judgment, 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 jeopardise flight safety.

2.11.1.6 DECREASE OF MEDICAL FITNESS

- (a) Holders of licences provided for in this Part shall not exercise the privileges of their licences and related ratings at any time when they are aware of any decrease in their medical fitness which might render them unable to safely and properly exercise these privileges.

2.11.1.7 USE OF PSYCHOACTIVE SUBSTANCES

- (a) *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.*

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- (b) Holders of licences provided for in this Part shall not engage in any problematic use of substances.

2.11.1.8 MEDICAL CERTIFICATE

- (a) The medical certificate:
- (1) shall be in a form and manner prescribed by the Authority. The items required on the licence are indicated in IS 2.11.1.8, and
 - (2) carried in the possession of the personnel licence holder at all times while exercising the privileges of a personnel licence.
- (b) Issue of medical certificates.
- (1) A medical certificate will be issued to any person who meets the medical requirements prescribed in this Subpart, based on medical examination and evaluation of the applicant's history and condition.
 - (i) The issue of the Class 1 medical certificate may be specifically delegated to a CAME.
 - (ii) The issue of Class 2 and 3 medical certificates may be delegated to any authorised CAME.
 - (2) Each person to be issued a medical certificate shall undergo a medical examination based on the physical and mental requirements contained in this Subpart.
 - (3) Any person who does not meet the medical requirements of this Subpart may apply for the discretionary issuance of a certificate under 2.11.1.5.
- (c) Validity:
- (1) The validity period of the medical certificate shall be:
 - (i) 12 months for the Class 1 for the CPL, MPL, and ATPL licences.
 - (ii) 12 months for the Class 2 for the FE and FN licences.
 - (iii) 60 months for the Class 2 for the PPL licences.
 - (iv) 48 months for the Class 3 for the air traffic controller licence.
 - (2) The exceptions for the validity period of the medical certificate are:
 - (i) When the holders have passed their 40th birthday:
 - (A) The 60 month interval specified for the PPL and the 48th month interval specified for the air traffic controller licence shall be reduced to 24 months; and
 - (B) The 12-month interval specified for the CPL and ATPL who are carrying passengers in single-pilot operations shall be reduced to 6 months.
 - (ii) When holders have passed their 50th birthday:
 - (A) The 24-month interval specified for the PPL and air traffic controller licence shall be reduced to 12 months.
 - (iii) When holders have passed their 60th birthday:
 - (A) The 12-month interval specified for the CPL, MPL, and ATPL who are engaged in commercial air transport operations shall be reduced to 6 months.

- (3) For initial issuance of the medical certificate, the period of validity shall begin on the date the medical examination is performed. The period of validity shall for the last month counted, include the day that has the same calendar number as the date of the medical examination or, if that month has no day with that number, the last day of that month.
 - (4) The period of validity of a Medical Certificate may be extended at the discretion of the Licensing Authority, up to 45 days.
 - (5) The period of validity of a medical certificate may be reduced when clinically indicated.
- (d) Renewal or re-issue of a medical certificate.
 - (1) The requirements to be met for the renewal or re-issue of a medical certificate are the same as those for the initial certificate except where otherwise specifically stated.
 - (2) The renewal of the Class 1, 2 and 3 medical certificates may be delegated to the CAME.
 - (3) Re-issue of the Class 1 medical certificate will either be done by the Authority or specifically delegated to a CAME.
 - (4) Re-issue of the Class 2 and 3 medical certificates may be delegated to a CAME.
- (e) Limitation or denial.
 - (1) The Authority may, for medical reasons justified and notified to the applicant, limit or deny a medical certificate.
- (f) Suspension or revocation of a medical certificate.
 - (1) The Authority may in accordance with paragraph 2.2.9 suspend or revoke a medical certificate issued, if it is established that an applicant or a certificate holder has not met, or no longer meets the requirements of Part 2.

2.11.1.9 MEDICAL ASSESSOR

- (a) The CAA medical assessor will periodically evaluate the competence of each CAME.
- (b) The Authority will use the services of physicians experienced in the practice of aviation medicine when it is necessary to evaluate reports submitted to the Authority by medical examiners.

2.11.2 MEDICAL REQUIREMENTS

2.11.2.1 GENERAL

- (a) An applicant for a Medical Certificate issued in accordance with this Part, shall undergo a medical examination based on the following requirements:
 - (1) Physical and mental;
 - (2) Visual and colour perception; and
 - (3) Hearing.

2.11.2.2 PHYSICAL AND MENTAL REQUIREMENTS

- (a) An applicant for any class of Medical Assessment shall be required to be free from:

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- (1) Any abnormality, congenital or acquired; or
 - (2) Any active, latent, acute or chronic disability; or
 - (3) Any wound, injury or sequelae from operation; or
 - (4) Any effect or side-effect of any prescribed or non-prescribed therapeutic 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.
- (b) An applicant with depression, being treated with antidepressant medication, shall be assessed as unfit unless the medical assessor, having access to the details of the case concerned, considers the applicant's condition as unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.

2.11.2.3 VISUAL ACUITY TEST REQUIREMENTS

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

2.11.2.4 COLOUR PERCEPTION REQUIREMENTS

- (a) 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.
- (b) 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 of Illumination (CIE).
- (c) An applicant obtaining a satisfactory result as prescribed by the 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.

2.11.2.5 HEARING TEST REQUIREMENTS

- (a) Applicants shall be required to demonstrate hearing performance sufficient for the safe exercise of their licence and rating privileges.
- (b) The hearing test may be conducted using a pure tone audiometer or alternate method that will provide equivalent results. This test shall be performed at the first medical examination and then at specified intervals according to the class of medical examination and age of the applicant.
- (c) If a pure tone audiometer is used, the reference zero for calibration is that of the International Organisation for Standardisation (ISO) Recommendation R389, 1964.
- (d) For hearing tests where audiometry is not performed, applicants shall be tested in a quiet room by whispered and spoken voice tests under the following conditions.

- (1) A quiet room is a room in which the intensity of the background noise is less than 35 dB(A) when measured on “slow” response of an “A”-weighted sound level meter.
- (2) the sound level of an average conversational voice at 1 m from the point of output is 60dB(A) and that of a whispered voice is 45dB(A). At 2 m from the speaker, the sound is 6 dB(A) lower.
- (e) The holder of a PPL with an instrument rating shall meet the hearing requirements for the Class 1 medical certificate.

2.11.2.6 CLASS 1 MEDICAL CERTIFICATE

- (c) Certificate issue and renewal
 - (1) The level of medical fitness to be met for the renewal of a medical certificate shall be the same as that for the initial assessment except where otherwise specifically stated.
 - (2) An applicant for a CPL or ATPL shall undergo an initial medical examination for the issue of a Class 1 Medical Certificate.
 - (3) Except where otherwise stated in this subpart, holders of CPL or ATPL shall have their Class 1 medical certificate renewed at intervals not exceeding those specified below.
 - (4) In alternate years, for Class 1 applicants under 40 years of age, Authority may, at its discretion, allow medical examiners to omit certain routine examination items related to the assessment of physical fitness, while increasing the emphasis on health education and prevention of ill health.
 - (5) A Class 1 medical certificate will be issued when the applicant complies with the requirements of this Part.
- (b) Physical and mental requirements
 - (1) 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.
 - (2) The applicant shall have no established medical history or clinical diagnosis of any of the following such as might render the applicant unable to safely exercise the privileges of the licence applied for or held:
 - (i) An organic mental disorder;
 - (ii) A mental or behavioural disorder due to use of psychoactive substances, this induces 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) Mental retardation;
 - (viii) A disorder of psychological development;
 - (ix) A behavioural or emotional disorder, with onset in childhood or adolescence; or
 - (x) A mental disorder not otherwise specified.

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- (3) 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, according to accredited medical conclusion, 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.
- (4) The applicant shall not have suffered any head injury, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's licence and rating privileges shall be assessed as unfit.
- (5) 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. A history of proven myocardial infarction shall be disqualifying.
- (6) 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 or rating privileges.
- (7) An applicant with an abnormal cardiac rhythm shall be assessed as unfit unless the cardiac arrhythmia has been investigated and evaluated in accordance with the safe exercise of the applicant's licence or rating privileges.
- (8) Electrocardiography shall form part of the heart examination for the first issue of a medical certificate.
- (9) Electrocardiography shall be included in re-examination of applicants over the age of 50 at least annually.

Note 1: The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.

- (10) The systolic and diastolic blood pressures shall be within normal limits.
- (11) The use of drugs for control of high blood pressure is disqualifying except for those drugs, the use of which, according to accredited medical conclusion is compatible with the safe exercise of the applicant's licence and rating privileges.
- (12) There shall be no significant functional or structural abnormality of the circulatory system.
- (13) There shall be no acute disability of the lungs or any active disease of the structures of the lungs, mediastinum or pleura likely to result in incapacitating symptoms during normal or emergency operations.
- (14) Radiography should form a part of the initial chest examination.

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

- (15) Applicant's 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.

- (16) Applicant's with asthma causing significant symptoms or likely to cause incapacitating symptoms during normal or emergency operations shall be assessed as unfit.
- (17) 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.
- (18) Applicants with active pulmonary tuberculosis shall be assessed as unfit.
- (19) Applicants with quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.
- (20) Applicants with significant impairment of the function of the gastrointestinal tract or its adnexa shall be assessed as unfit.
- (21) The applicant shall be completely free from those hernias that might give rise to incapacitating symptoms.
- (22) Applicants with sequela of disease of, or surgical intervention on any part of the digestive tract or its adnexa, likely to cause incapacity in flight, in particular any obstructions due to stricture or compression shall be assessed as unfit.
- (23) 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 Authority designated for the purpose by Curaçao and having access to the details of the operation concerned considers that the effects of the operation are not likely to cause incapacity in flight.
- (24) Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of the applicant's licence and rating privileges shall be assessed as unfit.
- (25) Applicants with insulin-treated diabetes mellitus shall be assessed as unfit.
- (26) 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.
- (27) Applicants with disease 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 the applicant's licence and rating privileges.

Note: Sickle cell trait or other haemoglobinopathic traits are usually compatible with a fit assessment.

- (28) Applicants with renal or genitourinary disease shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.
- (29) Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.
- (30) Applicants with sequelae of disease or surgical procedures on the kidneys or the genitourinary tract, in particular any obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with the best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- (31) Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.

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- (32) Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed as not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

Note: Early diagnosis and active management of HIV disease with antiretroviral therapy reduces morbidity and improves prognosis and thus increases the likelihood of a fit assessment.

- (33) Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk, uncomplicated pregnancy. The fit assessment period may be limited from the end of the 12th week until the end of the 26th week of gestation.
- (34) 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 has been assessed as fit to safely exercise the privileges of her licence and ratings.
- (35) 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.

Note: Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

- (36) 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.
- (37) 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.
- (38) A single dry perforation of the tympanic membrane need not render the applicant unfit.
- (39) There shall be no nasal obstruction and no malformation nor 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.
- (40) Applicants with stuttering or other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.

(c) Visual requirements

- 1) The function of the eyes and their adnexae shall be normal. There shall be no active pathological condition, acute or chronic, or 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.
- 2) 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. 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.

Note 1: Item (2) is the subject of Standards in Annex 6, Part 1.

Note 2: 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 Authority. Both uncorrected and correct 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.

- 3) Applicants may use contact lenses to meet the requirement of (b) 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.

- 4) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

Note: If spectacles are used, high-index lenses are needed to minimise peripheral field distortion.

- 5) 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 certificate and every five years thereafter.

Note 1: The purpose of the required ophthalmic examination is 1) to ascertain normal visual performance and 2) to identify any significant pathology.

- 6) 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.
- 7) The applicant shall have the ability to read, while wearing the correcting lenses, if any, 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 correcting already prescribed in accordance with this paragraph; 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 licence. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1: Any applicant who needs near correction to meet this requirement will require "look-over", bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windscreen, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.

Note 2: Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the refractionist of reading distances for the visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function.

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- 8) When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.
 - 9) The applicant shall be required to have normal fields of vision.
 - 10) The applicant shall be required to have normal binocular function.
 - 11) Reduced stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia may not be disqualifying.
- (d) Hearing requirements.
- (1) The applicant shall be tested by pure-tone audiometry.
 - (i) At the initial medical examination.
 - (ii) At least once every five years up to the age of 40 years.
 - (iii) At least once every three years after the age of 40 years.
 - (2) The applicant shall not have a hearing loss in either ear separately, of more than 35 dB at any of the frequencies 500, 1 000 or 2 000 Hz, or more than 50 dB at 3 000 Hz. However, an applicant with a hearing loss greater than the above may be declared fit provided that:
 - (i) The applicant has a hearing performance in each ear separately equivalent to that of a normal person, against a background noise that will simulate the masking properties of flight deck noise upon speech and beacon signals; and
 - (ii) The applicant has the ability to hear an average conversational voice in a quiet room, using both ears, at a distance of 2 m from the examiner, with the back turned to the examiner.
 - (3) 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.

2.11.2.7 CLASS 2 MEDICAL CERTIFICATE

- (a) Certificate issue and renewal.
 - (1) An applicant for a PPL, a FE or FN licence shall undergo an initial medical examination for the issue of a Class 2 Medical Certificate.
 - (2) Except where otherwise stated in this subpart, holders of a PPL, a FE or a FN licence shall have their Class 2 Medical Certificate renewed at intervals not exceeding those specified in this subpart.
 - (3) A Class 2 Medical Certificate will be issued when the applicant complies with the requirements of this Part.
- (b) Physical and mental requirements.
 - (1) 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.
 - (2) The applicant shall have no established medical history or clinical diagnosis of any of the following such as might render the applicant unable to safely exercise the privileges of the licence applied for or held:
 - (i) An organic mental disorder;

- (ii) A mental or behavioural disorder due to use of psychoactive substances; this induces 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) Mental retardation;
 - (viii) A disorder of psychological development;
 - (ix) A behavioural or emotional disorder, with onset in childhood or adolescence; or
 - (x) A mental disorder not otherwise specified.
- (3) An applicant with depression, being treated with antidepressant medication, should be assessed as unfit unless the medical assessor, have access to the details of the case concerned, considers the applicants condition as unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.
- (4) 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, according to accredited medical conclusion, 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.
- (5) The applicant shall not have suffered any head injury, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's licence and rating privileges shall be assessed as unfit.
- (6) 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. A history of proven myocardial infarction shall be disqualifying.
- (7) 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 or rating privileges.
- (8) 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.
- (9) Electrocardiography shall form part of the heart examination for the first issue of a medical certificate:
 - (i) After the age of 40; and
 - (ii) In re-examinations every two years after the age of 50.

Note 1: The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.

- (10) The systolic and diastolic blood pressures shall be within normal limits.
- (11) The use of drugs for control of high blood pressure is disqualifying except for those drugs, the use of which, according to accredited medical conclusion is compatible with the safe exercise of the applicant's licence and rating privileges.
- (12) There shall be no significant functional or structural abnormality of the circulatory system.
- (13) There shall be no acute disability of the lungs or any active disease of the structures of the lungs, mediastinum or pleura likely to result in incapacitating symptoms during normal or emergency operations.
 - (i) Radiography should form a part of the initial chest examination.

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

- (14) Applicant's 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.
- (15) Applicant's with asthma causing significant symptoms or likely to cause incapacitating symptoms during normal or emergency operations shall be assessed as unfit.
- (16) 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.
- (17) Applicants with active pulmonary tuberculosis shall be assessed as unfit.
- (18) Applicants with quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.
- (19) Applicants with significant impairment of the function of the gastrointestinal tract or its adnexae shall be assessed as unfit.
- (20) The applicant shall be completely free from those hernias that might give rise to incapacitating symptoms.
- (21) Applicants with sequelae of disease of, or surgical intervention on any part of the digestive tract or its adnexae, likely to cause incapacity in flight, in particular any obstructions due to stricture or compression shall be assessed as unfit.
- (22) 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 Authority designated for the purpose by Curaçao and having access to the details of the operation concerned considers that the effects of the operation are not likely to cause incapacity in flight.
- (23) Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of the applicant's licence and rating privileges shall be assessed as unfit.
- (24) Applicants with insulin-treated diabetes mellitus shall be assessed as unfit.
- (25) 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.

- (26) Applicants with disease 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 the applicant's licence and rating privileges.

Note: Sickle cell trait or other haemoglobinopathic traits are usually compatible with a fit assessment.

- (27) Applicants with renal or genitor-urinary disease shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.
- (28) Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.
- (29) Applicants with sequelae of disease or surgical procedures on the kidneys or the genitourinary tract, in particular any obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with the best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- (30) Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.
- (31) Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed as not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

Note 1: Early diagnosis and active management of HIV disease with antiretroviral therapy reduces morbidity and improves prognosis and thus increases the likelihood of a fit assessment.

- (32) Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk, uncomplicated pregnancy.
- (33) For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with item 32 above, 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.
- (34) 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 has been assessed as fit to safely exercise the privileges of her licence and ratings.
- (35) 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.

Note: Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

- (36) 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.
- (37) 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.
- (38) A single dry perforation of the tympanic membrane need not render the applicant unfit.

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- (39) There shall be no nasal obstruction and no malformation nor 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.
- (40) Applicants with stuttering or other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.
- (c) Visual requirements
- (1) The function of the eyes and their adnexae shall be normal. There shall be no active pathological condition, acute or chronic, or 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.
- (2) 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. 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.

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 Authority. Both uncorrected and correct 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.

- (3) Applicants may use contact lenses to meet the requirement of (b) 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.

- (4) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

Note: If spectacles are used, high-index lenses are needed to minimise peripheral field distortion.

- (5) 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 certificate and every five years thereafter.

Note 1: The purpose of the required ophthalmic examination is 1) to ascertain normal visual performance and 2) to identify any significant pathology.

- (6) 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.

- (7) The applicant shall have the ability to read, while wearing the correcting lenses, if any, the N5 chart or its equivalent at a distance selected by that applicant in the range of 30 to 50 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 correcting already prescribed in accordance with this paragraph; 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 licence. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1: Any applicant who needs near correction to meet this requirement will require “look-over”, bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windscreen, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.

Note 2: Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the refractionist of reading distances for the visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function.

- (8) When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.
- (9) The applicant shall be required to have normal fields of vision.
- (10) The applicant shall be required to have normal binocular function.
- (11) Reduced stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia may not be disqualifying.
- (d) Hearing requirements.
- (1) The applicant shall be tested by pure-tone audiometry.
- (i) At the initial medical examination.
- (ii) At least once every two years after the age of 50 years.
- (2) 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, 1 000 or 2 000 Hz, or more than 50 dB at 3 000 Hz, shall be assessed as unfit.
- (3) The applicant shall have the ability to hear an average conversational voice in a quiet room, using both ears, at a distance of 2 m from the examiner, with the back turned to the examiner or be assessed as unfit.
- (4) The applicant who holds a PPL with an IR shall meet the hearing requirements for a Class 1 medical certificate.

2.11.2.8 CLASS 3 MEDICAL CERTIFICATE

- (a) Certificate issue and renewal.
- (1) An applicant for an Air Traffic Controller licence shall undergo an initial medical examination for the issue of a Class 3 Medical Certificate.
- (2) Except where otherwise stated in this subpart, holders of an Air Traffic Controller licence shall have their Class 3 Medical Certificate renewed at intervals not exceeding those specified in this subpart.

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- (3) A Class 3 Medical Certificate will be issued when the applicant complies with the requirements of this Part.
- (b) Physical and mental requirements.
- (1) 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.
- (2) The applicant shall have no established medical history or clinical diagnosis of any of the following such as might render the applicant unable to safely exercise the privileges of the licence applied for or held:
- (i) An organic mental disorder;
 - (ii) A mental or behavioural disorder due to use of psychoactive substances; this induces 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) Mental retardation;
 - (viii) A disorder of psychological development;
 - (ix) A behavioural or emotional disorder, with onset in childhood or adolescence; or
 - (x) A mental disorder not otherwise specified.
- (3) An applicant with depression, being treated with antidepressant medication, should be assessed as unfit unless the medical assessor, have access to the details of the case concerned, considers the applicants, condition as unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.
- (4) 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, according to accredited medical conclusion, 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.
- (5) The applicant shall not have suffered any head injury, the effects of which, according to accredited medical conclusion, are likely to interfere with the safe exercise of the applicant's licence and rating privileges shall be assessed as unfit.
- (6) 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. A history of proven myocardial infarction shall be disqualifying.
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- (7) 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 or rating privileges.
- (8) 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.
- (9) Electrocardiography shall form part of the heart examination for the first issue of a medical certificate and in re-examinations every two years after the age of 50.

Note 1: The purpose of routine electrocardiography is case finding. It does not provide sufficient evidence to justify disqualification without further thorough cardiovascular investigation.

- (10) The systolic and diastolic blood pressures shall be within normal limits.
- (11) The use of drugs for control of high blood pressure is disqualifying except for those drugs, the use of which, according to accredited medical conclusion is compatible with the safe exercise of the applicant's licence and rating privileges.
- (12) There shall be no significant functional or structural abnormality of the circulatory system.
- (13) There shall be no acute disability of the lungs or any active disease of the structures of the lungs, mediastinum or pleura likely to result in incapacitating symptoms during normal or emergency operations. Radiography should form a part of the initial chest examination.

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

- (14) Applicant's 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.
- (15) Applicant's with asthma causing significant symptoms or likely to cause incapacitating symptoms during normal or emergency operations shall be assessed as unfit.
- (16) 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.
- (17) Applicants with active pulmonary tuberculosis shall be assessed as unfit.
- (18) Applicants with quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.
- (19) Applicants with significant impairment of the function of the gastrointestinal tract or its adnexae shall be assessed as unfit.
- (20) Applicants with sequelae of disease of, or surgical intervention on any part of the digestive tract or its adnexae, likely to cause incapacity in flight, in particular any obstructions due to stricture or compression shall be assessed as unfit.

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- (21) 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 Authority designated for the purpose by Curaçao and having access to the details of the operation concerned considers that the effects of the operation are not likely to cause incapacity in flight.
 - (22) Applicants with metabolic, nutritional or endocrine disorders that are likely to interfere with the safe exercise of the applicant's licence and rating privileges shall be assessed as unfit.
 - (23) Applicants with insulin-treated diabetes mellitus shall be assessed as unfit.
 - (24) 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.
 - (25) Applicants with disease 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 the applicant's licence and rating privileges.

Note: Sickle cell trait or other haemoglobinopathic traits are usually compatible with a fit assessment.

- (26) Applicants with renal or genitor-urinary disease shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of the applicant's licence and rating privileges.
- (27) Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.
- (28) Applicants with sequelae of disease or surgical procedures on the kidneys or the genito-urinary tract, in particular any obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with the best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's licence or rating privileges.
- (29) Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.
- (30) Applicants who are seropositive for human immunodeficiency virus (HIV) shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed as not likely to interfere with the safe exercise of the applicant's licence or rating privileges.

Note 1: Early diagnosis and active management of HIV disease with antiretroviral therapy reduces morbidity and improves prognosis and thus increases the likelihood of a fit assessment.

- (31) Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk, uncomplicated pregnancy.
- (32) 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
- (33) For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance (31) the fit assessment should be limited to the period until the end of the 34th week of gestation.
- (34) 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 has been assessed as fit to safely exercise the privileges of her licence and ratings.

- (35) 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.

Note: Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

- (36) 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.
- (37) There shall be no malformation or 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.
- (38) Applicants with stuttering or other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.

(c) Visual requirements

- (1) The function of the eyes and their adnexa shall be normal. There shall be no active pathological condition, acute or chronic, or any sequelae of surgery or trauma of the eyes or their adnexa likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's licence and rating privileges.
- (2) 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. 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.

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 Authority. Both uncorrected and correct 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.

- (3) Applicants may use contact lenses to meet the requirement of (b) 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.

- (4) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

Note: If spectacles are used, high-index lenses are needed to minimise peripheral field distortion.

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

Note 1: The purpose of the required ophthalmic examination is 1) to ascertain normal visual performance and 2) to identify any significant pathology.

- (6) 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.
- (7) The applicant shall have the ability to read, while wearing the correcting lenses, if any, required by (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 correcting already prescribed in accordance with (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 licence. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1: Any applicant who needs near correction to meet this requirement will require "look-over", bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windscreen, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.

Note 2: Whenever there is a requirement to obtain or renew correcting lenses, an applicant is expected to advise the refractionist of reading distances for the visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function.

- (8) When near correction is required in accordance with this paragraph, a second pair of near-correction spectacles shall be kept available for immediate use.
- (9) The applicant shall be required to have normal fields of vision.
- (10) The applicant shall be required to have normal binocular function.

Note: Defective stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia may not be disqualifying.

(d) Hearing requirements.

- (1) The applicant shall be tested by pure-tone audiometry.
 - (i) At the initial medical examination.
 - (ii) At least once every four years up to the age of 40 years.
 - (iii) At least once every two years after the age of 40 years.
- (2) 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, 1 000 or 2 000 Hz, or more than 50 dB at 3 000 Hz.
- (3) 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 will reproduces or simulates that experience in a normal air traffic control working environment.
- (4) Alternatively, a practical hearing test conducted in an air traffic control environment representative of the one for which the applicant's licence and ratings are valid may be used.

CURAÇAO CIVIL AVIATION REGULATIONS

PART 2 — IMPLEMENTING STANDARDS

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PART 2 — IMPLEMENTING STANDARDS

IS 2.2.2 LANGUAGE PROFICIENCY

- (a) General
 - (1) To meet the language proficiency requirements contained in 2.2.2, an applicant for a licence or a licence holder shall demonstrate, in a manner acceptable to the Authority, compliance with the holistic descriptors in paragraph (b) below and with the Operational Level (Level 4) of the Language Proficiency Rating Scale as mentioned in paragraph c) below.
- (b) Holistic descriptors. Proficient speakers shall:
 - (1) Communicate effectively in voice-only (telephone/radiotelephone) and in face-to-face situations;
 - (2) Communicate on common, concrete and work-related topics with accuracy and clarity;
 - (3) Use appropriate communicative strategies to exchange messages and to recognise and resolve misunderstandings (e.g. to check, confirm, or clarify information) in a general or work-related context;
 - (4) Handle successfully and with relative ease the linguistic challenges presented by a complication or unexpected turn of events that occurs within the context of a routine work situation or communicative task with which they are otherwise familiar; and
 - (5) Use a dialect or accent which is intelligible to the aeronautical community.
- (c) Rating scale:
 - (1) Pre-elementary Level (Level 1):
 - (i) Pronunciation: Performs at a level below the Elementary Level.
 - (ii) Structure: Performs at a level below the Elementary Level.
 - (iii) Vocabulary: Performs at a level below the Elementary Level.
 - (iv) Fluency: Performs at a level below the Elementary Level.
 - (v) Comprehension: Performs at a level below the Elementary Level.
 - (vi) Interactions: Performs at a level below the Elementary Level.
 - (2) Elementary Level (Level 2):
 - (i) Pronunciation: Pronunciation, stress, rhythm, and intonation are heavily influenced by the first language or regional variation and usually interfere with ease of understanding.
 - (ii) Structure: Shows only limited control of a few simple memorised grammatical structures and sentence patterns.
 - (iii) Vocabulary: Limited vocabulary range consisting only of isolated words and memorised phrases.
 - (iv) Fluency: Can produce very short, isolated, memorised utterances with frequent pausing and a distracting use of fillers to search for expressions and to articulate less familiar words.

- (v) Comprehension: Comprehension is limited to isolated, memorised phrases when they are carefully and slowly articulated.
- (vi) Interactions: Response time is slow and often inappropriate. Interaction is limited to simple routine exchanges.
- (3) Pre-operational Level (Level 3):
 - (i) Pronunciation: Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation and frequently interfere with ease of understanding.
 - (ii) Structure: Basic grammatical structures and sentence patterns associated with predictable situations are not always well controlled. Errors frequently interfere with meaning.
 - (iii) Vocabulary: Vocabulary range and accuracy are often sufficient to communicate on common, concrete, or work-related topics, but range is limited and the word choice often inappropriate. Is often unable to paraphrase successfully when lacking vocabulary.
 - (iv) Fluency: Produces stretches of language, but phrasing and pausing are often inappropriate. Hesitations or slowness in language processing may prevent effective communication. Fillers are sometimes distracting.
 - (v) Comprehension: Comprehension is often accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. May fail to understand a linguistic or situational complication or an unexpected turn of events.
 - (vi) Interaction: Responses are sometimes immediate, appropriate, and informative. Can initiate and maintain exchanges with reasonable ease on familiar topics and in predictable situations. Generally inadequate when dealing with an unexpected turn of events.
- (4) Operational Level (Level 4):
 - (i) Pronunciation: Pronunciation, stress, rhythm and intonation are influenced by the first language or regional variation but only sometimes interfere with understanding.
 - (ii) Structure: Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.
 - (iii) Vocabulary: Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.
 - (iv) Fluency: Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.
 - (v) Comprehension: Comprehension is mostly accurate on common, concrete, and work related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.

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- (vi) Interactions: Responses are usually immediate, appropriate and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming or clarifying.
 - (5) Extended Level (Level 5):
 - (i) Pronunciation: Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding.
 - (ii) Structure: Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.
 - (iii) Vocabulary: Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work related topics. Paraphrases consistently and successfully. Vocabulary is sometimes idiomatic.
 - (iv) Fluency: Able to speak at length with relative ease on familiar topics, but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.
 - (v) Comprehension: Comprehension is accurate on common, concrete, and work related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers.
 - (vi) Interactions: Responses are immediate, appropriate, and informative. Manages the speaker/listener relationship effectively.
 - (6) Expert Level (Level 6):
 - (i) Pronunciation: Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.
 - (ii) Structure: Both basic and complex grammatical structures and sentence patterns are consistently well controlled.
 - (iii) Vocabulary: Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register.
 - (iv) Fluency: Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasise a point. Uses appropriate discourse markers and connectors spontaneously.
 - (v) Comprehension: Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.
 - (vi) Interactions: Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues, and responds to them appropriately.

IS 2.2.3.1 CREDIT FOR MILITARY PILOTS

- (a) Requirements for a military pilot to meet the requirements of 2.2.3.1.
- (b) Military pilots on active flying status within the past 12 months. The holder of a military pilot licence (or certificate) who has been on active flying status within the 12 months before applying shall:

- (1) Pass a knowledge test on the appropriate parts of these regulations that apply to pilot privileges and limitations, air traffic and general operating rules, and accident reporting rules;
 - (2) Present documentation showing compliance with the requirements of paragraph (c) of this subsection for at least one aircraft category rating; and
 - (3) Present documentation showing that the applicant is or was, at any time during the 12 calendar months before the month of application, the holder of a military pilot licence (or certificate) on active flying status in an armed force of the Kingdom of the Netherlands.
- (c) Aircraft category, class and type ratings. The Authority may issue to the holder of a military pilot licence (or certificate) an aircraft category, class or type rating to a commercial pilot licence if the pilot present documentary evidence that shows satisfactory accomplishment of:
 - (1) A military pilot check and instrument proficiency check of the Kingdom of the Netherlands in that aircraft category, class or type, if applicable, as PIC during the 12 calendar months before the month of application; and
 - (2) At least 10 hours of PIC time in that aircraft category, class or type, if applicable, during the 12 calendar months before the month of application.
- (d) Instrument rating. The holder of a military pilot licence (or certificate) may apply for an aeroplane or helicopter instrument rating to be added to his or her commercial pilot licence if the pilot has, within the 12 calendar months preceding the month of application:
 - (1) Passed an instrument proficiency check by an armed force of the Kingdom of the Netherlands in the aircraft category for the instrument rating sought; and
 - (2) Received authorisation from an armed force of the Kingdom of the Netherlands to conduct IFR flights on airways in that aircraft category and class for the instrument rating sought.
- (e) Aircraft type rating. The Authority will issue an aircraft type rating only for aircraft types that the Authority has certified for civil operations.
- (f) Aircraft type rating placed on an airline transport pilot licence. The Authority may issue to the holder of a military pilot licence (or certificate) who holds an airline transport pilot licence an aircraft type rating provided that the pilot:
 - (1) Holds a category and type rating for that type of aircraft at the airline transport pilot licence level; and
 - (2) Passed an official Kingdom of the Netherlands military pilot check and instrument proficiency check in that type of aircraft as PIC during the 12 calendar months before the month of application.
- (g) Evidentiary documents. The Authority may accept the following documents as satisfactory evidence of military pilot status:
 - (1) An official identification card issued to the pilot by an armed force to demonstrate membership in the armed forces.
 - (2) An original or a copy of a certificate of discharge or release from an armed force of the Kingdom of the Netherlands.
 - (3) At least one of the following:
 - (i) An order of an armed force of the Kingdom of the Netherlands to flight status as a military pilot;
 - (ii) An armed force form or logbook showing military pilot status; or

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- (iii) An order showing that the applicant graduated from a military pilot school of the Kingdom of the Netherlands and received a rating as a military pilot.
 - (4) A certified armed force logbook or an appropriate official armed force form or summary to demonstrate flight time in military aircraft as a member of an armed force of the Kingdom of the Netherlands.
 - (5) An official armed force of Kingdom of the Netherlands record of a military designation as PIC.
 - (6) An official record of satisfactory accomplishment of an instrument proficiency check during the 12 calendar months preceding the month of application.

IS 2.2.4.3 PROCEDURES FOR VALIDATION OF FLIGHTCREW LICENCES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

- (a) The Authority should, before making the agreement mentioned in 2.2.4.3 (a)(3), be convinced that the other Contracting State issues licences in conformity with at least this Part by conducting a regulatory comparison of the licensing systems and requirements.
- (b) An inspector, legal counsel and/or licensing subject matter experts from Curaçao, or from another Contracting State delegated by the Authority of Curaçao, must visit the other Contracting State to be convinced that the licensing system in the other Contracting State is in conformity with at least this Part. A report describing the bases for the decision shall be made to the Authority of Curaçao. The report, and the regulatory comparison noted in item (b) shall serve the basis for a government-to-government agreement between the involved States regarding use or reliance of the licensing system.
- (c) An Air Law test must be arranged if the Air Law system of Curaçao is different from the Air Law system from the other Contracting State. Other areas that may require knowledge testing are meteorology, operational procedures and radiotelephony if those areas are different between Curaçao and the other Contracting State.
- (d) Application for the validation certificate shall be done by submitting to the Authority a properly filled out form, which can be obtained from the Authority.

IS 2.2.4.4 PROCEDURES FOR CONVERSION OF FLIGHTCREW LICENCES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

- (a) The Authority that issues a converted licence based on a licence from another Contracting State remains responsible for the converted licence.
- (b) The Authority should, before making the agreement mentioned in 2.2.4.4 (a)(3), be convinced that the other Contracting State issues licences in conformity with at least this Part by conducting a regulatory comparison of the licensing systems and requirements.
- (c) An inspector, legal counsel and/or licensing subject matter experts from Curaçao], or from another Contracting State delegated by the Authority of Curaçao, must visit the other Contracting State to be convinced that the licensing system in the other Contracting State is in conformity with at least this Part. A report describing the bases for the decision shall be made to the Authority of Curaçao. The report, and the regulatory comparison noted in item (b) shall serve the basis for a government-to-government agreement between the involved States regarding use or reliance of the licensing system.

- (1) An Air Law test must be arranged if the Air Law system of Curaçao is different from the Air Law system from the other Contracting State. Other areas that may require knowledge testing are meteorology, operational procedures and radiotelephony if those areas are different between Curaçao and the other Contracting State.
- (d) Renewal and re-issue of converted licences and ratings:
 - (1) when examiners are available in Curaçao to perform proficiency checks for the renewal of rating(s) or skill tests for the re-issue of the licence or rating(s), these tests/checks will be performed by the authorised examiners of Curaçao;
 - (2) when examiners are not available in Curaçao to perform proficiency checks for the renewal of the rating(s) or skill test for the re-issue of the licence or rating(s), the availability of examiners for these tests/checks from the other Contracting State can be arranged in the agreement mentioned in 2.2.4.4 (a)(3).
- (e) Application for the conversion of a licence from another Contracting State shall be done by submitting to the Authority a properly filled out form, which can be obtained from the Authority.
- (f) The conversion of medical certificates, and/or reliance on medical examinations conducted in the other State, may also be addressed in the government-to-government agreement between the States.

IS 2.2.4.9 PROCEDURES FOR VALIDATION OF AMT LICENCES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

- (a) The Authority should, before making the agreement mentioned in 2.2.4.9 (a)(3), be convinced that the other Contracting State issues licences in conformity with at least this Part by conducting a regulatory comparison of the licensing systems and requirements.
- (b) An inspector, legal counsel and/or licensing subject matter experts from Curaçao, or from another Contracting State delegated by the Authority of Curaçao, must visit the other Contracting State to be convinced that the licensing system in the other Contracting State is in conformity with at least this Part. A report describing the bases for the decision shall be made to the Authority of Curaçao. The report, and the regulatory comparison noted in item (b) shall serve the basis for a government-to-government agreement between the involved States regarding use or reliance of the licensing system.
- (c) An Air Law test must be arranged if the Air Law system of Curaçao is different from the Air Law system from the other Contracting State. The knowledge test may also include Curaçao airworthiness requirements governing certification and continuing airworthiness, and approved maintenance organisations and procedures if those regulations are different from the Contracting State.
- (d) Application for the validation certificate shall be done by submitting to the Authority a properly filled out form, which can be obtained from the Authority.

IS 2.2.4.10 PROCEDURES FOR CONVERSION OF AMT LICENCES BY RELIANCE UPON THE LICENSING SYSTEM OF ANOTHER CONTRACTING STATE

- (a) The Authority that issues a converted licence based on a licence from another Contracting State remains responsible for the converted licence.
- (b) The Authority should, before making the agreement mentioned in 2.6.2.15. (a)(3), be convinced that the other Contracting State issues licences in conformity with at least this Part by conducting a regulatory comparison of the licensing systems and requirements.

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- (c) An inspector, legal counsel and/or licensing subject matter experts from Curaçao, or from another Contracting State delegated by the Authority of Curaçao, must visit the other Contracting State to be convinced that the licensing system in the other Contracting State is in conformity with at least this Part. A report describing the bases for the decision shall be made to the Authority of Curaçao. The report, and the regulatory comparison noted in item (b) shall serve the basis for a government-to-government agreement between the involved States regarding use or reliance of the licensing system.
 - (1) An Air Law test must be arranged if the Air Law system of Curaçao is different from the Air Law system from the other Contracting State. The knowledge test may also include Curaçao airworthiness requirements governing certification and continuing airworthiness, and approved maintenance organisations and procedures if those regulations are different from the Contracting State.
 - (d) Renewal and re-issue of converted licences and ratings:
 - (1) when examiners are available in Curaçao to perform proficiency checks for the renewal of rating(s) or skill tests for the re-issue of the licence or rating(s), these tests/checks will be performed by the authorised examiners of Curaçao;
 - (2) when examiners are not available in Curaçao to perform proficiency checks for the renewal of the rating(s) or skill test for the re-issue of the licence or rating(s), the availability of examiners for these tests/checks from the other Contracting State can be arranged in the agreement mentioned in 2.6.2.15 (a)(3).
 - (e) Application for the conversion of a licence from another Contracting State shall be done by submitting to the Authority a properly filled out form, which can be obtained from the Authority.

IS 2.2.8 SPECIFICATIONS AND FORMAT OF THE LICENCE

- (a) The following details shall appear on the licence and the numbering scheme shall be in Roman numerals.
 - (i) Name of Curaçao (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;
 - (IVa) Date of birth;
 - (v) Address of holder;
 - (vi) Nationality of holder;
 - (vii) Signature of holder;
 - (viii) The Authority and, where necessary, conditions under which the licence is issued;
 - (ix) Certification concerning validity and authorisation for holder to exercise privileges appropriate to the licence;
 - (x) Signature of officer issuing the licence and the date of such issue;
 - (xi) Seal or stamp of authority issuing the licence;
 - (xii) Ratings, (e.g. Category, class, type of aircraft, airframe, aerodrome control, etc.);

- (xiii) Remarks, (i.e. special endorsements relating to limitations and endorsements for privileges, including from 5 March 2008 an endorsement of language proficiency, and other information required in pursuance to Article 39 of the Chicago Convention);
- (xiv) Any other details desired by the State issuing the licence.
- (b) The privileges and ratings shall be clearly identified on the licence in items (a) (IX) and (XII).

Note: Item (VI) Nationality is presumed to be citizenship of the licence holder.

IS 2.3.1.7 RECORDING OF FLIGHT TIME

- (a) The details in the records of flights flown as pilot shall contain the items in (b) and (c) below.
- (b) For the purpose of meeting the requirements of 2.3.1.6, each person shall enter the following information for each flight or lesson logged.
 - (1) Personal details:
 - (i) Name of the holder;
 - (ii) Address of the holder.
 - (2) For each flight:
 - (i) Name of PIC;
 - (ii) Date of flight;
 - (iii) Place and time of departure and arrival;
 - (iv) Type of aircraft and registration;
 - (3) For each session in a flight simulation training device:
 - (i) Type and qualification number of flight simulation training device;
 - (ii) Flight simulation training device instruction;
 - (iii) Date;
 - (iv) Total time of session.
 - (4) Pilot function:
 - (i) Solo.
 - (ii) PIC.
 - (iii) Co-pilot.
 - (iv) Dual.
 - (v) Flight instructor.
- (c) Logging of flight time.
 - (1) Logging of solo flight time:
 - (i) A student pilot may log as solo flight time only that flight time when the pilot is the sole occupant of the aircraft.
 - (2) Logging of PIC flight time:
 - (i) The applicant or the holder of a pilot licence may log as PIC time all that flight time during which that person is:

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- (A) The sole manipulator of the controls of an aircraft for which the pilot is rated; and
 - (B) Acting as PIC of an aircraft on which more than one pilot is required under the type certification of the aircraft or the regulations under which the flight is conducted.
 - (ii) An authorised instructor may log as PIC time all of the flight time while acting as an authorised instructor.
 - (iii) A student pilot may log as PIC time all solo flight time and flight time as student pilot-in-command provided that such time is countersigned by the instructor.
 - (3) Logging of co-pilot time:
 - (i) A person may log co-pilot time only when occupying a pilot seat as co-pilot in an aircraft on which more than one pilot is required under the type certification of the aircraft or the regulations under which the flight is conducted.
 - (4) Logging of instrument flight time:
 - (i) A person may log instrument flight time only for that flight when the person operates the aircraft solely by reference to instruments under actual or simulated instrument flight conditions.
 - (5) Logging instruction time:
 - (i) A person may log instruction time when that person receives training from an authorised instructor in an aircraft or flight simulation training device.
 - (ii) The instruction time shall be logged in a record (e.g. logbook) and shall be endorsed by the authorised instructor.

IS 2.3.2.5 CATEGORY II AND III AUTHORISATION

- (a) The Authority will issue a Category II or Category III pilot authorisation by letter, as a part of an applicant's instrument rating or airline transport pilot certificate.
- (b) Upon original issue the authorisation will contain the following limitations:
 - (1) For Category II operations, 1,600 feet RVR and a 150-foot decision height; and
 - (2) For Category III operations, as specified in the authorisation document.
- (c) To remove the limitations on a Category II or Category III pilot authorisation:
 - (1) A Category II limitation holder may remove the limitation by showing that, since the beginning of the sixth preceding month, the holder has made three Category II ILS approaches with a 150-foot decision height to a landing under actual or simulated instrument conditions; or
 - (2) A Category III limitation holder may remove the limitation by showing experience as specified in the authorisation.
- (d) An authorisation holder or an applicant for an authorisation may use a flight simulator or flight training device if it is approved by the Authority for such use, to meet the experience requirement of paragraph (e) of this subsection, or for the practical test required by this Part for a Category II or a Category III pilot authorisation, as applicable.
- (e) Category II: skill test requirements.
 - (1) An applicant for the following authorisations shall pass a skill test:

- (i) Issuance or renewal of a Category II pilot authorization.
 - (ii) The addition of another type aircraft to a Category II pilot authorisation.
 - (2) To be eligible for the skill test for an authorisation under this subsection, an applicant shall:
 - (i) Meet the requirements of 2.3.2.5; and
 - (ii) If the applicant has not passed a skill test for this authorisation during the 12 calendar months preceding the month of the test the applicant shall:
 - (A) Meet the requirements of 8.4.1.10; and
 - (B) Have performed at least six ILS approaches during the 6 calendar months preceding the month of the test, of which at least three of the approaches shall have been conducted without the use of an approach coupler.
 - (3) An applicant shall accomplish the approaches specified in paragraph (e)(2)(ii)(B) of this subsection:
 - (i) Under actual or simulated instrument flight conditions;
 - (ii) To the minimum decision height for the ILS approach in the type aircraft in which the practical test is to be conducted, except that the approaches need not be conducted to the decision height authorised for Category II operations;
 - (iii) To the decision height authorised for Category II operations only if conducted in an approved flight simulator or an approved flight training device; and
 - (iv) In an aircraft of the same category and class, and type, as applicable, as the aircraft in which the practical test is to be conducted or in an approved flight simulator that:
 - (A) Represents an aircraft of the same category and class, and type, as applicable, as the aircraft in which the authorisation is sought; and
 - (B) Is used in accordance with an approved course conducted by an ATO certified under Part 3.
 - (4) The flight time acquired in meeting the requirements of paragraph (e)(2)(ii)(B) of this subsection may be used to meet the requirements of paragraph (e)(2)(ii)(A) of this subsection.
- (f) Category II: skill test procedures. The skill test consists of an oral increment and a flight increment.
 - (1) Oral increment. In the oral increment of the practical test an applicant shall demonstrate knowledge of the following:
 - (i) Required landing distance;
 - (ii) Recognition of the decision height;
 - (iii) Missed approach procedures and techniques using computed or fixed attitude guidance displays;
 - (iv) Use and limitations of RVR;
 - (v) Use of visual clues, their availability or limitations, and altitude at which they are normally discernible at reduced RVR readings;
 - (vi) Procedures and techniques related to transition from nonvisual to visual flight during a final approach under reduced RVR;
 - (vii) Effects of vertical and horizontal windshear;
 - (viii) Characteristics and limitations of the ILS and runway lighting system;

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- (ix) Characteristics and limitations of the flight director system, auto approach coupler (including split axis type if equipped), auto throttle system (if equipped), and other required Category II equipment;
 - (x) Assigned duties of the SIC during Category II approaches, unless the aircraft for which authorisation is sought does not require an SIC; and
 - (xi) Instrument and equipment failure warning systems.
- (1) Flight increment. The following requirements apply to the flight increment of the practical test:
- (i) The flight increment shall be conducted in an aircraft of the same category, class, and type, as applicable, as the aircraft in which the authorisation is sought or in an approved flight simulator that:
 - (A) Represents an aircraft of the same category and class, and type, as applicable, as the aircraft in which the authorisation is sought; and
 - (B) Is used in accordance with an approved course conducted by an ATO certified under Part 3.
 - (ii) The flight increment shall consist of at least two ILS approaches to 100 feet AGL including at least one landing and one missed approach.
 - (iii) All approaches performed during the flight increment shall be made with the use of an approved flight control guidance system, except if an approved auto approach coupler is installed, at least one approach shall be hand flown using flight director commands.
 - (iv) If a multiengine aeroplane with the performance capability to execute a missed approach with one engine inoperative is used for the practical test, the flight increment shall include the performance of one missed approach with an engine, which shall be the most critical engine, if applicable, set at idle or zero thrust before reaching the middle marker.
 - (v) If an approved multiengine flight simulator or approved multiengine flight training device is used for the practical test, the applicant shall execute a missed approach with the most critical engine, if applicable, failed.
 - (vi) For an authorisation for an aircraft that requires a type rating, the applicant shall pass a practical test in co-ordination with a SIC who holds a type rating in the aircraft in which the authorisation is sought.
 - (vii) An inspector or evaluator may conduct oral questioning at any time during a practical test.
- (g) Category III: skill test requirements.
- (1) The Authority will require that an applicant pass a skill test for:
- (i) Issuance or renewal of a Category III pilot authorization;
 - (ii) The addition of another type of aircraft to a Category III pilot authorisation.
- (2) To be eligible for the skill test an applicant shall:
- (i) Meet the requirements of 2.3.2.5; and
 - (ii) If the applicant has not passed a practical test for this authorisation during the 12 calendar months preceding the month of the test the applicant shall:
 - (A) Meet the requirements of 8.4.1.10, 8.10.1.20 and 8.10.1.32; and
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- (B) Have performed at least six ILS approaches during the 6 calendar months preceding the month of the test, of which at least three of the approaches shall have been conducted without the use of an approach coupler.
- (3) An applicant shall conduct the approaches specified in paragraph (2)(ii)(B) of this subsection:
 - (i) Under actual or simulated instrument flight conditions;
 - (ii) To the alert height or decision height for the ILS approach in the type aircraft in which the practical test is to be conducted;
 - (iii) Not necessarily to the decision height authorised for Category III operations;
 - (iv) To the alert height or decision height, as applicable, authorised for Category III operations only if conducted in an approved flight simulator or approved flight training device; and
 - (v) In an aircraft of the same category and class, and type, as applicable, as the aircraft in which the practical test is to be conducted or in an approved flight simulator that:
 - (A) Represents an aircraft of the same category and class, and type, as applicable, as the aircraft for which the authorisation is sought; and
 - (B) Is used in accordance with an approved course conducted by an ATO certified under Part 3.
- (4) Knowledge requirements: An applicant shall demonstrate knowledge of the following:
 - (i) Required landing distance;
 - (ii) Determination and recognition of the alert height or decision height, as applicable, including use of a radar altimeter;
 - (iii) Recognition of and proper reaction to significant failures encountered prior to and after reaching the alert height or decision height, as applicable;
 - (iv) Missed approach procedures and techniques using computed or fixed attitude guidance displays and expected height loss as they relate to manual go around or automatic go around, and initiation altitude, as applicable;
 - (v) Use and limitations of RVR, including determination of controlling RVR and required transmissometers;
 - (vi) Use, availability, or limitations of visual cues and the altitude at which they are normally discernible at reduced RVR readings including:
 - (A) Unexpected deterioration of conditions to less than minimum RVR during approach, flare, and rollout;
 - (B) Demonstration of expected visual references with weather at minimum conditions;
 - (C) The expected sequence of visual cues during an approach in which visibility is at or above landing minima; and
 - (D) Procedures and techniques for making a transition from instrument reference flight to visual flight during a final approach under reduced RVR.
 - (vii) Effects of vertical and horizontal windshear;
 - (viii) Characteristics and limitations of the ILS and runway lighting system;

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- (ix) Characteristics and limitations of the flight director system auto approach coupler (including split axis type if equipped), auto throttle system (if equipped), and other Category III equipment;
 - (x) Assigned duties of the SIC during Category III operations, unless the aircraft for which authorisation is sought does not require a SIC;
 - (xi) Recognition of the limits of acceptable aircraft position and flight path tracking during approach, flare, and, if applicable, rollout;
 - (xii) Recognition of, and reaction to, airborne or ground system faults or abnormalities, particularly after passing alert height or decision height, as applicable.
- (5) Flight skill requirements:
- (i) An applicant may conduct the practical test in an aircraft of the same category and class, and type, as applicable, as the aircraft for which the authorisation is sought, or in an approved flight simulator that:
 - (A) Represents an aircraft of the same category and class, and type, as applicable, as the aircraft in which the authorisation is sought; and
 - (B) Is used in accordance with an approved course conducted by an ATO certified under Part 3.
 - (ii) The practical test shall consist of at least two ILS approaches to 100 feet AGL, including one landing and one missed approach initiated from a very low altitude that may result in a touchdown during the go around manoeuvre;
 - (iii) The applicant shall perform all approaches during the practical test with the approved automatic landing system or an equivalent landing system approved by the Authority;
 - (iv) If a multiengine aircraft with the performance capability to execute a missed approach with one engine inoperative is used for the practical test, the practical test shall include the performance of one missed approach with the most critical engine, if applicable, set at idle or zero thrust before reaching the middle or outer marker;
 - (v) If an approved multiengine flight simulator or approved multiengine flight training device is used, the applicant shall execute a missed approach with an engine, which shall be the most critical engine, if applicable, failed;
 - (vi) For an authorisation for an aircraft that requires a type rating, the applicant shall pass a practical test in co-ordination with a SIC who holds a type rating in the aircraft in which the authorisation is sought; and
 - (vii) Subject to the limitations of this paragraph, for Category IIIb operations predicated on the use of a fail passive rollout control system, the applicant shall execute at least one manual rollout using visual reference or a combination of visual and instrument references. The applicant shall initiate this manoeuvre by a fail passive disconnect of the rollout control system:
 - (A) After main gear touchdown;
 - (B) Prior to nose gear touchdown;
 - (C) In conditions representative of the most adverse lateral touchdown displacement allowing a safe landing on the runway; and
 - (D) In weather conditions anticipated in Category IIIb operations.
- (6) An inspector or evaluator may conduct oral questioning at any time during the practical test.
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IS 2.3.3 STUDENT PILOTS

- (a) A student pilot who is receiving training for solo flight shall receive and log flight training for the following manoeuvres and procedures, as applicable for each category and class rating as specified in the applicable subsection to this IS.

Note: When (SE) is indicated, the item is only for single engine aircraft. When (ME) is indicated, the item is only for multi-engine aircraft.

IS 2.3.3.2 STUDENT PILOTS: MANOEUVRES AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING—AEROPLANE CATEGORY

- (a) A student pilot who is receiving training for solo flight in an aeroplane shall receive and log flight training for the following manoeuvres and procedures:
 - (1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation and aircraft systems;
 - (2) Taxiing, or surface operations, including runups;
 - (3) Takeoffs and landings, including normal and crosswind;
 - (4) Straight and level flight and turns in both directions;
 - (5) Climbs and climbing turns;
 - (6) Aerodrome traffic patterns including entry and departure procedures;
 - (7) Collision avoidance, windshear avoidance and wake turbulence avoidance;
 - (8) Descents, with and without turns, using high and low drag configurations;
 - (9) Flight at various airspeeds from cruise to slow flight;
 - (10) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall and recovery from a full stall;
 - (11) Emergency procedures and equipment malfunctions;
 - (12) Ground reference manoeuvres;
 - (13) Approaches to a landing area with simulated engine malfunctions;
 - (14) Slips to a landing (SE only);
 - (15) Go-arounds.

IS 2.3.3.3 STUDENT PILOTS: MANOEUVRES AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING—HELICOPTER CATEGORY

- (a) A student pilot who is receiving training for solo flight in a helicopter shall receive and log flight training for the following manoeuvres and procedures:

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- (1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation and aircraft systems;
 - (2) Taxiing, or surface operations, including runups;
 - (3) Takeoffs and landings, including normal and crosswind;
 - (4) Straight and level flight and turns in both directions;
 - (5) Climbs and climbing turns;
 - (6) Aerodrome traffic patterns including entry and departure procedures;
 - (7) Collision avoidance, windshear avoidance and wake turbulence avoidance;
 - (8) Descents, with and without turns, using high and low drag configurations;
 - (9) Flight at various airspeeds;
 - (10) Emergency procedures and equipment malfunctions;
 - (11) Ground reference manoeuvres;
 - (12) Approaches to the landing area;
 - (13) Hovering and hovering turns;
 - (14) Go-arounds;
 - (15) Simulated emergency procedures, including autorotational descents with a power recovery and power recovery to hover;
 - (16) Rapid decelerations;
 - (17) Simulated one-engine-inoperative approaches and landings for multi-engine helicopters (ME).

IS 2.3.3.4 STUDENT PILOTS: MANOEUVRES AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING—POWERED-LIFT CATEGORY

- (a) A student pilot who is receiving training for solo flight in a powered-lift shall receive and log flight training for the following manoeuvres and procedures:
 - (1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation and aircraft systems;
 - (2) Taxiing, or surface operations, including runups;
 - (3) Takeoffs and landings, including normal and crosswind;
 - (4) Straight and level flight and turns in both directions;
 - (5) Climbs and climbing turns;
 - (6) Aerodrome traffic patterns including entry and departure procedures;
 - (7) Collision avoidance, windshear avoidance and wake turbulence avoidance;
 - (8) Descents, with and without turn;
 - (9) Flight at various airspeeds from cruise to slow flight;
 - (10) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall, and recovery from a full stall;
 - (11) Emergency procedures and equipment malfunctions;

- (12) Ground reference manoeuvres;
- (13) Approaches to a landing area with simulated engine failure;
- (14) Go-arounds;
- (15) Approaches to the landing area;
- (16) Hovering and hovering turns;
- (17) Simulated one-engine-inoperative approaches and landings for multi-engine powered-lift (ME).

IS 2.3.3.5 STUDENT PILOTS: MANOEUVRES AND PROCEDURES FOR PRE-SOLO FLIGHT TRAINING—AIRSHIP CATEGORY

- (a) A student pilot who is receiving training for solo flight in an airship shall receive and log flight training for the following manoeuvres and procedures:
 - (1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation and aircraft systems;
 - (2) Taxiing, or surface operations, including runups;
 - (3) Takeoffs and landings, including normal and crosswind;
 - (4) Straight and level flight and turns in both directions;
 - (5) Climbs and climbing turns;
 - (6) Aerodrome traffic patterns including entry and departure procedures;
 - (7) Collision avoidance, windshear avoidance and wake turbulence avoidance;
 - (8) Descents, with and without turn;
 - (9) Flight at various airspeeds from cruise to slow flight;
 - (10) Emergency procedures and equipment malfunctions;
 - (11) Ground reference manoeuvres;
 - (12) Rigging, ballasting, and controlling pressure in the ballonets, and superheating;
 - (13) Landings with positive and with negative static trim.

IS 2.3.3.6 RESERVED

IS 2.3.3.7 RESERVED

IS 2.3.4 PRIVATE PILOT LICENCE

IS 2.3.4.2 PPL SKILL TEST—AEROPLANE CATEGORY

- (a) The skill test for the single-engine and multi-engine private pilot licence –aeroplane shall include at least the following areas of operation with CRM competencies applied and evident in all tasks:

Note 1: When (SE) is indicated, the item or paragraph is only for single-engine, when (ME) is indicated the item or paragraph is only for multi-engine. When nothing is indicated, the item or paragraph is for single-engine and multi-engine.

Note 2: When (S) is indicated, the item is only for seaplanes, when (L) is indicated, the item is only for landplanes. When nothing is indicated, the item is for land and seaplanes.

- (1) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
 - (i) Licences and documents;
 - (ii) Airworthiness requirements;
 - (iii) Weather information;
 - (iv) Cross-country flight planning;
 - (v) National airspace system;
 - (vi) Performance and limitations;
 - (vii) Operation of system;
 - (viii) Principles of flight;
 - (ix) Water and Seaplane Characteristics (S);
 - (x) Seaplane bases, maritime rules and aids to marine navigation (S);
 - (xi) Aeromedical factors.
- (2) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Preflight inspection;
 - (ii) Cockpit management;
 - (iii) Engine Starting;
 - (iv) Taxiing (L);
 - (v) Taxiing and Sailing (S);
 - (vi) Before takeoff check.
- (3) Aerodrome and seaplane operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Radio communications and ATC light signals;
 - (ii) Traffic patterns;
 - (iii) Aerodrome/Seaplane Base, runway and taxiway signs, markings and lighting.
- (4) Takeoffs, landings and go-arounds, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal and crosswind takeoff and climb;
 - (ii) Normal and crosswind approach and landing;
 - (iii) Soft-field takeoff and climb (SE) (L);
 - (iv) Soft-field approach and landing (SE) (L);
 - (v) Short-field (Confined area (S)) takeoff and maximum performance climb;
 - (vi) Short-field approach (Confined area (S)) and landing;
 - (vii) Glassy Water takeoff and climb (S);

- (viii) Glassy water approach and landing (S);
 - (ix) Rough water takeoff and climb (S);
 - (x) Rough water approach and landing (S);
 - (xi) Forward slip to a landing (SE);
 - (xii) Go-around/rejected landing.
- (5) Performance manoeuvre, including the applicant's knowledge and performance of the following task:
- (i) Steep turns.
- (6) Ground reference manoeuvres, including the applicant's knowledge and performance of the following tasks:
- (i) Rectangular course;
 - (ii) S-turns;
 - (iii) Turns around a point.
- (7) Navigation, including the applicant's knowledge and performance of the following tasks:
- (i) Pilotage and dead reckoning;
 - (ii) Navigation systems and radar services;
 - (iii) Diversion;
 - (iv) Lost procedures.
- (8) Slow flight and stalls, including the applicant's knowledge and performance of the following tasks:
- (i) Manoeuvring during slow flight;
 - (ii) Power-off stalls;
 - (iii) Power-on stalls;
 - (iv) Spin awareness.
- (9) Basic instrument manoeuvres, including the applicant's knowledge and performance of the following tasks:
- (i) Straight-and-level flight;
 - (ii) Constant airspeed climbs;
 - (iii) Constant airspeed descents;
 - (iv) Turns to headings;
 - (v) Recovery from unusual flight;
 - (vi) Radio Communications, navigation systems/facilities and radar services; including the applicant's knowledge and performance of the following tasks:
- (10) Emergency operations, including the applicant's knowledge and performance of the following tasks:
- (i) Emergency approach and landing;
 - (ii) Emergency descent (ME);

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- (iii) Engine failure during takeoff before minimum controllable airspeed (VMC) (simulated) (ME);
 - (iv) Engine failure after lift-off (simulated) (ME);
 - (v) Approach and landing with an inoperative engine (simulated) (ME);
 - (vi) Systems and equipment malfunctions;
 - (vii) Emergency equipment and survival gear.
 - (11) Multi-engine operations (ME), including the applicant's knowledge and performance of the following tasks:
 - (i) Manoeuvring with one engine inoperative;
 - (ii) VMC demonstration;
 - (iii) Engine failure during flight (by reference to instruments);
 - (iv) Instrument approach – one engine inoperative (by reference to instruments).
 - (12) Night operation, including the applicant's knowledge and performance of the following task:
 - (i) Night preparation.
 - (13) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) After landing, parking and securing;
 - (ii) Anchoring (S);
 - (iii) Docking and mooring (S);
 - (iv) Ramping/Beaching (S).

IS 2.3.4.3 PPL SKILL TEST—HELICOPTER CATEGORY

- (a) The skill test for the private pilot licence -helicopter shall include at least the following areas of operation with CRM competencies applied and evident in all tasks:
 - (1) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
 - (i) Licences and documents;
 - (ii) Weather information;
 - (iii) Cross-country flight planning;
 - (iv) National airspace system;
 - (v) Performance and limitations;
 - (vi) Operation of system;
 - (vii) Minimum equipment list;
 - (viii) Aeromedical factors.
 - (2) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Preflight inspection;

- (ii) Cockpit management;
 - (iii) Engine Starting and rotor engagement;
 - (iv) Before takeoff check.
- (3) Aerodrome and heliport operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Radio communications and ATC light signals;
 - (ii) Traffic patterns;
 - (iii) Aerodrome and heliport markings and lighting.
- (4) Hovering manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Vertical takeoff and landing;
 - (ii) Slope operations;
 - (iii) Surface taxi;
 - (iv) Hover taxi;
 - (v) Air taxi.
- (5) Takeoffs, landings and go-arounds, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal and crosswind takeoff and climb;
 - (ii) Normal and crosswind approach;
 - (iii) Maximum performance takeoff and climb.
 - (iv) Steep approach;
 - (v) Rolling takeoff;
 - (vi) Shallow approach and running/roll-on landing;
 - (vii) Go-around.
- (6) Performance manoeuvre, including the applicant's knowledge and performance of the following tasks:
 - (i) Rapid deceleration;
 - (ii) Straight in autorotation.
- (7) Navigation, including the applicant's knowledge and performance of the following tasks:
 - (i) Pilotage and dead reckoning;
 - (ii) Radio navigation and radar services;
 - (iii) Diversion;
 - (iv) Lost procedures.
- (8) Emergency operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Power failure at a hover;
 - (ii) Power failure at altitude;

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- (iii) Systems and equipment malfunctions;
 - (iv) Settling-with-power;
 - (v) Low rotor RPM recovery;
 - (vi) Dynamic rollover;
 - (vii) Ground resonance;
 - (viii) Low G conditions;
 - (ix) Emergency equipment and survival gear.
- (9) Night operation, including the applicant's knowledge and performance of the following tasks:
- (i) Physiological aspects of night flying;
 - (ii) Lighting and equipment for night flying.
- (10) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
- (i) After landing and securing.

IS 2.3.4.4 PPL SKILL TEST—POWERED-LIFT CATEGORY

- (a) Reserved.

IS 2.3.4.5 PPL SKILL TEST—AIRSHIP CATEGORY

- (a) The skill test for the private pilot licence-airship category shall include at least the following areas of operation with CRM competencies applied and evident in all tasks:
- (1) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
- (i) Certificates and documents;
 - (ii) Weather information;
 - (iii) Cross-country flight planning;
 - (iv) National airspace system;
 - (v) Performance and limitations;
 - (vi) Operation of systems;
 - (vii) Aeromedical factors.
- (2) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
- (i) Preflight inspection;
 - (ii) Cockpit management;
 - (iii) Engine starting;
 - (iv) Unmasting and positioning for takeoff;
 - (v) Ground handling;

- (vi) Before takeoff check.
- (3) Aerodrome operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Radio communications and ATC light signals;
 - (ii) Traffic patterns;
 - (iii) Airport and runway markings and lighting.
- (4) Takeoffs, landings and go-arounds, including the applicant's knowledge and performance of the following tasks:
 - (i) Ground weigh-off;
 - (ii) Up-ship takeoff;
 - (iii) Wheel takeoff;
 - (iv) Approach and landing;
 - (v) Go-around.
- (5) Performance manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Straight-and-level flight;
 - (ii) Ascents and descents;
 - (iii) Level turns;
 - (iv) In-flight weigh-off;
 - (v) Manual pressure control;
 - (vi) Static and dynamic trim.
- (6) Ground reference manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Rectangular course;
 - (ii) Turns around a point.
- (7) Navigation, including the applicant's knowledge and performance of the following tasks:
 - (i) Pilotage and dead reckoning;
 - (ii) Navigation systems and radar services;
 - (iii) Diversion;
 - (iv) Lost procedures.
- (8) Emergency operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Engine fire during flight;
 - (ii) Envelope emergencies;
 - (iii) Free ballooning;
 - (iv) Ditching and emergency landing;
 - (v) Systems and equipment malfunctions.

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- (9) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Masting;
 - (ii) Post-masting.

IS 2.3.4.6 RESERVED

IS 2.3.4.7 RESERVED

IS 2.3.5.2 CPL SKILL TEST—AEROPLANE CATEGORY

- (a) The skill test for the single-engine and multi-engine commercial pilot licence - aeroplane shall include at least the following areas of operation with CRM competencies applied and evident in all tasks:

Note 1: When (SE) is indicated, the item or paragraph is only for single-engine; when (ME) is indicated, the item or paragraph is only for multi-engine. When nothing is indicated, the item or paragraph is for single-engine and multi-engine.

Note 2: When (S) is indicated, the item is only for seaplanes, when (L) is indicated, the item is only for landplanes. When nothing is indicated, the item is for land and seaplanes.

- (1) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
 - (i) Licences and documents;
 - (ii) Airworthiness requirements;
 - (iii) Weather information;
 - (iv) Cross-country flight planning;
 - (v) National airspace system;
 - (vi) Performance and limitations;
 - (vii) Operation of system;
 - (viii) Principles of flight (ME);
 - (ix) Water and Seaplane characteristics (S);
 - (x) Seaplane bases, maritime rules and aids to marine navigation (S);
 - (xi) Aeromedical factors.
- (2) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Preflight inspection;
 - (ii) Cockpit management;
 - (iii) Engine Starting;
 - (iv) Taxiing (L);
 - (v) Taxiing and sailing (S);

- (vi) Before takeoff check.
- (3) Aerodrome and seaplane base operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Radio communications and ATC light signals;
 - (ii) Traffic patterns;
 - (iii) Aerodrome/Seaplane base, runway and taxiway signs, markings and lighting.
- (4) Takeoffs, landings and go-arounds, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal and crosswind takeoff and climb;
 - (ii) Normal and crosswind approach and landing;
 - (iii) Soft-field takeoff and climb (SE);
 - (iv) Soft-field approach and landing (SE);
 - (v) Short-field (Confined area (S)) takeoff and maximum performance climb;
 - (vi) Short-field (Confined area (S)) approach and landing;
 - (vii) Glassy water takeoff and climb (S);
 - (viii) Glassy water approach and landing (S);
 - (ix) Rough water takeoff and climb (S);
 - (x) Rough water approach and landing (S);
 - (xi) Power-off 180 degrees accuracy approach and landing (SE);
 - (xii) Go-around/rejected landing.
- (5) Performance manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Steep turns;
 - (ii) Steep spiral (SE);
 - (iii) Chandelles (SE);
 - (iv) Lazy eights (SE).
- (6) Ground reference manoeuvres, including the applicant's knowledge and performance of the following task:
 - (i) Eights on pylons (SE).
- (7) Navigation, including the applicant's knowledge and performance of the following tasks:
 - (i) Pilotage and dead reckoning;
 - (ii) Navigation systems and radar services;
 - (iii) Diversion;
 - (iv) Lost procedures.
- (8) Slow flight and stalls, including the applicant's knowledge and performance of the following tasks:
 - (i) Manoeuvring during slow flight;

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- (ii) Power-off stalls;
 - (iii) Power-on stalls;
 - (iv) Spin awareness.
 - (9) Emergency operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Emergency approach and landing;
 - (ii) Emergency descent (ME);
 - (iii) Engine failure during takeoff before VMC (simulated) (ME);
 - (iv) Engine failure after lift-off (simulated) (ME);
 - (v) Approach and landing with an inoperative engine (simulated) (ME);
 - (vi) Systems and equipment malfunctions;
 - (vii) Emergency equipment and survival gear.
 - (10) High altitude operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Supplemental oxygen;
 - (ii) Pressurisation.
 - (11) Multi-engine operations (ME), including the applicant's knowledge and performance of the following tasks:
 - (i) Manoeuvring with one engine inoperative;
 - (ii) VMC demonstration;
 - (iii) Engine failure during flight (by reference to instruments);
 - (iv) Instrument approach – one engine inoperative (by reference to instruments).
 - (12) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) After landing, parking and securing;
 - (ii) Anchoring (S);
 - (iii) Docking and mooring (S);
 - (iv) Ramping/beaching (S).

IS 2.3.5.3 CPL SKILL TEST—HELICOPTER CATEGORY

- (a) The skill test for the commercial pilot licence – helicopter shall include at least the following areas of operation with CRM competencies applied and evident in all tasks:
 - (1) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
 - (i) Licences and documents;
 - (ii) Weather information;
 - (iii) Cross-country flight planning;

- (iv) National airspace system;
 - (v) Performance and limitations;
 - (vi) Operation of system;
 - (vii) Minimum equipment list;
 - (viii) Aeromedical factors;
 - (ix) Physiological aspects of night flying;
 - (x) Lighting and equipment for night flying.
- (2) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Preflight inspection;
 - (ii) Cockpit management;
 - (iii) Engine Starting and rotor engagement;
 - (iv) Before takeoff check.
- (3) Aerodrome and heliport operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Radio communications and ATC light signals;
 - (ii) Traffic patterns;
 - (iii) Aerodrome and heliport markings and lighting.
- (4) Hovering manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Vertical takeoff and landing;
 - (ii) Slope operations;
 - (iii) Surface taxi;
 - (iv) Hover taxi;
 - (v) Air taxi.
- (5) Takeoffs, landings and go-arounds, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal and crosswind takeoff and climb;
 - (ii) Normal and crosswind approach and landing;
 - (iii) Maximum performance takeoff and climb;
 - (iv) Steep approach;
 - (v) Rolling takeoff;
 - (vi) Shallow approach and running/roll-on landing;
 - (vii) Go-around.
- (6) Performance manoeuvre, including the applicant's knowledge and performance of the following tasks:
 - (i) Rapid deceleration;

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- (ii) 180 Degrees autorotation.
 - (7) Navigation, including the applicant's knowledge and performance of the following tasks:
 - (i) Pilotage and dead reckoning;
 - (ii) Radio navigation and radar services;
 - (iii) Diversion;
 - (iv) Lost procedures.
 - (8) Emergency operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Power failure at a hover;
 - (ii) Power failure at altitude;
 - (iii) Systems and equipment malfunctions;
 - (iv) Settling-with-power;
 - (v) Low rotor RPM recovery;
 - (vi) Dynamic rollover;
 - (vii) Ground resonance;
 - (viii) Low G conditions;
 - (ix) Emergency equipment and survival gear.
 - (9) Special operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Confined area operation;
 - (ii) Pinnacle/platform operations.
 - (10) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) After landing, parking and securing.

IS 2.3.5.4 CPL SKILL TEST—POWERED-LIFT CATEGORY

- (a) Reserved.

IS 2.3.5.5 CPL SKILL TEST—AIRSHIP CATEGORY

- (a) The skill test for the commercial pilot licence –airship shall include at least the following areas of operation with CRM competencies applied and evident in all tasks:
 - (1) Technical subjects, including the applicant's knowledge and performance of the following tasks:
 - (i) Aeromedical factors;
 - (ii) Visual scanning and collision avoidance;
 - (iii) Use of distractions during flight training;
 - (iv) Principles of flight;
 - (v) Airship weigh-off, ballast, and trim;

- (vi) Night operations;
 - (vii) Regulations and publications;
 - (viii) National airspace system;
 - (ix) Logbook entries and licence endorsement.
- (2) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
- (i) Licences and documents;
 - (ii) Weather information;
 - (iii) Cross-country flight planning;
 - (iv) Performance and limitations;
 - (v) Operations of systems.
- (3) Preflight lesson on a manoeuvre to be performed in flight, including the applicant's knowledge and performance of the following task:
- (i) Manoeuvre lesson.
- (4) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
- (i) Preflight inspection;
 - (ii) Cockpit management;
 - (iii) Engine starting;
 - (iv) Unmasting and positioning for takeoff;
 - (v) Ground handling;
 - (vi) Before takeoff check.
- (5) Aerodrome operations, including the applicant's knowledge and performance of the following tasks:
- (i) Radio communications;
 - (ii) Traffic pattern operations;
 - (iii) Aerodrome, runway, and taxiway markings and lighting.
- (6) Performance manoeuvres, including the applicant's knowledge and performance of the following tasks:
- (i) Flight to, from, and at pressure height;
 - (ii) In-flight weigh-off;
 - (iii) Manual pressure control;
 - (iv) Static and dynamic trim.
- (7) Navigation, including the applicant's knowledge and performance of the following tasks:
- (i) Pilotage and dead reckoning;
 - (ii) Diversion;
 - (iii) Lost procedures;

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- (iv) Navigation systems and air traffic control radar services.
 - (8) Emergency operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Aborted takeoff;
 - (ii) Engine failure during takeoff;
 - (iii) Engine failure during flight;
 - (iv) Engine fire during flight;
 - (v) Envelope emergencies;
 - (vi) Free ballooning;
 - (vii) Ditching and emergency landing;
 - (viii) Systems and equipment malfunctions.
 - (9) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Masting;
 - (ii) Post-masting.

IS 2.3.5.6 RESERVED

IS 2.3.5.7 RESERVED

IS 2.3.6.2 MULTI-CREW PILOT LICENCE SKILL TEST – AEROPLANE CATEGORY

- (a) The skill test for the multi-crew pilot licence shall determine that the applicant, as pilot flying and pilot not flying, possesses the required skills in the following competency areas to perform as a co-pilot of turbine-powered aeroplanes certificated for operation with at least two pilots under VFR and IFR:
 - (1) Apply threat and error management principles;
 - (2) Perform aeroplane ground operations;
 - (3) Perform take-off;
 - (4) Perform climb;
 - (5) Perform cruise;
 - (6) Perform descent;
 - (7) Perform approach;
 - (8) Perform landing, and perform after-landing and aeroplane post-flight operations.

IS 2.3.7.2 ATPL AND AIRCRAFT TYPE RATING SKILL TEST—AEROPLANE CATEGORY

- (a) The skill test for the airline transport pilot licence - aeroplanes shall include at least the following areas of operation with CRM competencies applied and evident in all tasks:
- (1) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
 - (i) Equipment examination;
 - (ii) Performance and limitations.
 - (2) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Preflight inspection;
 - (ii) Powerplant start;
 - (iii) Taxiing;
 - (iv) Before takeoff checks.
 - (3) Takeoffs and departure phase, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal takeoffs with different flap settings, including expedited takeoff;
 - (ii) Instrument takeoff;
 - (iii) Powerplant failure during takeoff;
 - (iv) Rejected takeoff;
 - (v) Departure procedures.
 - (4) In-flight manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Steep turns;
 - (ii) Approach to stalls;
 - (iii) Powerplant failure;
 - (iv) Specific flight characteristics;
 - (v) Recovery from unusual altitudes.
 - (5) Instrument procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Standard terminal arrival/flight management system procedures;
 - (ii) Holding procedures;
 - (iii) Precision instrument approaches;
 - (iv) Non-precision instrument approaches;
 - (v) Circling approach;
 - (vi) Missed approach.

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- (6) Landings and approaches to landings, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal and crosswind approaches and landings;
 - (ii) Landing from a precision approach;
 - (iii) Approach and landing with (simulated) powerplant failure;
 - (iv) Landing from a circling approach;
 - (v) Rejected landing;
 - (vi) Landing from a no-flap or a non-standard flap approach;
 - (vii) Normal and abnormal procedures.;
 - (viii) Emergency procedures.
 - (7) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) After landing procedures;
 - (ii) Parking and securing.

IS 2.3.7.3 ATPL AND AIRCRAFT TYPE RATING SKILL TEST—HELICOPTER CATEGORY

- (a) The skill test for the airline transport pilot licence for helicopters shall include at least the following areas of operation with CRM competencies applied and evident in all tasks:
 - (1) Preflight preparations and checks, including the applicant's knowledge and performance of the following tasks:
 - (i) Equipment examination;
 - (ii) Performance and limitations.
 - (2) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Preflight inspection.
 - (ii) Powerplant start.
 - (iii) Taxiing;
 - (iv) Pre-takeoff checks.
 - (3) Takeoff and departure phase, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal and crosswind takeoff;
 - (ii) Instrument takeoff;
 - (iii) Powerplant failure during takeoff;
 - (iv) Rejected takeoff;
 - (v) Instrument departure.

- (4) In-flight manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Steep turns;
 - (ii) Powerplant failure-multi-engine helicopter;
 - (iii) Powerplant failure-single-engine helicopter;
 - (iv) Recovery from unusual altitudes;
 - (v) Settling with power.
- (5) Instrument procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Instrument arrival;
 - (ii) Holding;
 - (iii) Precision instrument approaches;
 - (iv) Non-precision instrument approaches;
 - (v) Missed approach.
- (6) Landings and approaches to landings, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal and crosswind approaches and landings;
 - (ii) Approach and landing with simulated powerplant failure-multiengine helicopter;
 - (iii) Rejected landing.
- (7) Normal and abnormal procedures, including the applicant's knowledge and performance.
- (8) Emergency procedures, including the applicant's knowledge and performance.
- (9) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) After landing procedures;
 - (ii) Parking and securing.

IS 2.3.7.4 ATPL AND AIRCRAFT TYPE RATING SKILL TEST—POWERED-LIFT CATEGORY

- (a) Reserved.

IS 2.3.8.2 INSTRUMENT RATING SKILL TEST AND PROFICIENCY CHECK

- (a) The skill test and proficiency check for the instrument rating shall include at least the following areas of operation with CRM competencies applied and evident in all tasks appropriate to the category of aircraft:

Note: When (SE) is indicated, the item or paragraph is only for single-engine, when (ME) is indicated the item or paragraphs is only for multi-engine. When nothing is indicated, the item or paragraph is for single-engine and multi-engine.

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- (1) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
 - (i) Weather information;
 - (ii) Cross-country flight planning.
 - (2) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Aircraft systems related to IFR operations;
 - (ii) Aircraft flight instruments and navigation equipment;
 - (iii) Instrument cockpit check.
 - (3) Air traffic control clearances and procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Air traffic control clearances;
 - (ii) Compliance with departure, en route and arrival procedures and clearances;
 - (iii) Holding procedures.
 - (4) Flight by reference to instruments, including the applicant's knowledge and performance of the following tasks:
 - (i) Straight-and-level flight;
 - (ii) Change of airspeed;
 - (iii) Constant airspeed climbs and descents;
 - (iv) Rate climbs and descents;
 - (v) Timed turns to magnetic compass headings;
 - (vi) Steep turns;
 - (vii) Recovery from unusual flight attitudes.
 - (5) Navigation systems, including the applicant's knowledge and performance of the following tasks:
 - (i) Intercepting and tracking navigational systems and DME Arcs;
 - (ii) Instrument approach procedures, including the applicant's knowledge and performance of the following tasks:
 - (A) Non-precision instrument approach.
 - (B) Precision ILS instrument approach.
 - (C) Missed approach.
 - (D) Circling approach.
 - (E) Landing from a straight-in or circling approach.
 - (6) Emergency operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Loss of communications;
 - (ii) One engine inoperative during straight-and-level flight and turns (ME);
 - (iii) One engine inoperative – instrument approach (ME);
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- (iv) Loss of gyro attitude and/or heading indicators;
- (7) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Checking instruments and equipment.

IS 2.3.9.2 FLIGHT INSTRUCTOR SKILL TEST AND PROFICIENCY CHECK

- (a) **Aeroplane Category.** The skill test and proficiency check for the flight instructor rating - aeroplane shall include at least the following areas of operation with CRM competencies applied and evident in all tasks appropriate to the category and class of aircraft:

Note 1: When (SE) is indicated the item or paragraph is only for single-engine, when (ME) is indicated the item or paragraphs is only for multi-engine. When nothing is indicated, the item or paragraph is for single-engine and multi-engine.

Note 2: When (S) is indicated, the item is only for seaplanes, when (L) is indicated, the item is only for landplanes. When nothing is indicated, the item is for land and seaplanes.

- (1) Fundamentals of instruction, including the applicant's knowledge and performance of the following tasks:
 - (i) The learning process;
 - (ii) The teaching process;
 - (iii) Teaching methods;
 - (iv) Evaluation;
 - (v) Flight instructor characteristics and responsibilities;
 - (vi) Human factors;
 - (vii) Planning instructional activity.
- (2) Technical subject areas, including the applicant's knowledge and performance of the following tasks:
 - (i) Aeromedical factors;
 - (ii) Visual Scanning and collision avoidance;
 - (iii) Principles of flight;
 - (iv) Aeroplane flight controls;
 - (v) Aeroplane weight and balance;
 - (vi) Navigation and flight planning;
 - (vii) Night operations;
 - (viii) High altitude operations;
 - (ix) Regulations and publications;
 - (x) Use of minimum equipment list;
 - (xi) National airspace system;
 - (xii) Navigation aids and radar services;
 - (xiii) Logbook entries and licence endorsements;

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- (xiv) Water and seaplane characteristics (S);
 - (xv) Seaplane bases, rules and aids to marine navigation (S).
- (3) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
- (i) Licences and documents;
 - (ii) Weather information;
 - (iii) Operation of systems (SE);
 - (iv) Performance and limitations (SE);
 - (v) Airworthiness requirements.
- (4) Preflight lesson on a manoeuvre to be performed in flight, including the applicant's knowledge and performance of the following task:
- (i) Manoeuvre lesson.
- (5) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
- (i) Preflight inspection;
 - (ii) Cockpit management;
 - (iii) Engine starting;
 - (iv) Taxiing (L);
 - (v) Taxiing (S);
 - (vi) Sailing (S);
 - (vii) Before takeoff check.
- (6) Aerodrome and seaplane base operations, including the applicant's knowledge and performance of the following tasks:
- (i) Radio communications and ATC light signals;
 - (ii) Traffic patterns;
 - (iii) Aerodrome and runway markings and lighting.
- (7) Takeoffs, landings and go-arounds; including the applicant's knowledge and performance of the following tasks:
- (i) Normal and crosswind takeoff and climb;
 - (ii) Short field (Confined area (S)) takeoff and maximum performance climb;
 - (iii) Soft field takeoff and climb (SE);
 - (iv) Glassy water takeoff and climb (S);
 - (v) Rough water takeoff and climb (S);
 - (vi) Normal and crosswind approach and landing;
 - (vii) Slip to a landing (SE);
 - (viii) Go-around/rejected landing;
 - (ix) Short field (Confined area (S)) approach and landing;
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- (x) Soft field approach and landing (SEL);
 - (xi) Power-off 180 degrees accuracy approach and landing (SEL);
 - (xii) Glassy water approach and landing (S);
 - (xiii) Rough water approach and landing (S).
- (8) Fundamentals of flight, including the applicant's knowledge and performance of the following tasks:
- (i) Straight-and-level flight;
 - (ii) Level turns;
 - (iii) Straight climbs and climbing turns;
 - (iv) Straight descents and descending turns.
- (9) Performance manoeuvres, including the applicant's knowledge and performance of the following tasks:
- (i) Steep turns;
 - (ii) Steep spirals (SE);
 - (iii) Chandelles (SE);
 - (iv) Lazy eights (SE).
- (10) Ground reference manoeuvres, including the applicant's knowledge and performance of the following tasks;
- (i) Rectangular course;
 - (ii) S-turns across a road;
 - (iii) Turns around a point;
 - (iv) Eights on pylons (SE).
- (11) Slow flight, stalls and spins, including the applicant's knowledge and performance of the following tasks:
- (i) Manoeuvring during slow flight;
 - (ii) Power-on stalls (proficiency);
 - (iii) Power-off stalls (proficiency);
 - (iv) Crossed-control stalls (demonstration) (SE);
 - (v) Elevator trim stalls (demonstration) (SE);
 - (vi) Secondary stalls (demonstration) (SE);
 - (vii) Spins (SEL).
- (12) Basic instrument manoeuvres, including the applicant's knowledge and performance of the following tasks:
- (i) Straight-and-level flight;
 - (ii) Constant airspeed climbs;
 - (iii) Constant airspeed descents;
 - (iv) Turns to headings;

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- (v) Recovery from unusual flight attitudes.
 - (13) Emergency operations (SE), including the applicant's knowledge and performance of the following tasks:
 - (i) Emergency approach and landing (simulated);
 - (ii) Systems and equipment malfunctions;
 - (iii) Emergency equipment and survival gear.
 - (14) Emergency operations (ME), including the applicant's knowledge and performance of the following tasks:
 - (i) Systems and equipment malfunctions;
 - (ii) Engine failure during takeoff before VMC;
 - (iii) Engine failure after lift-off;
 - (iv) Approach and landing with an inoperative engine;
 - (v) Emergency descent;
 - (vi) Emergency equipment and survival gear.
 - (15) Multi-engine operations (ME), including the applicant's knowledge and performance of the following tasks:
 - (i) Operation of systems;
 - (ii) Performance and limitations;
 - (iii) Flight principles – engine inoperative;
 - (iv) Manoeuvring with one engine inoperative;
 - (v) VMC demonstration;
 - (vi) Demonstrating the effects of various airspeeds and configurations during engine inoperative performance.
 - (16) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Post-flight procedures;
 - (ii) Anchoring (S);
 - (iii) Docking and mooring (S);
 - (iv) Beaching (S);
 - (v) Ramping (S).

(b) **Helicopter Category.** The skill test and proficiency check for the flight instructor rating for helicopter shall include at least the following areas of operation with CRM competencies applied and evident in all tasks appropriate to the category, and if applicable, class or type, of aircraft:

- (1) Fundamentals of instruction, including the applicant's knowledge and performance of the following tasks:
 - (i) The learning process;
 - (ii) The teaching process;

- (iii) Teaching methods;
 - (iv) Evaluation;
 - (v) Flight instructor characteristics and responsibilities;
 - (vi) Human factors;
 - (vii) Planning instructional activity.
- (2) Technical subject areas, including the applicant's knowledge and performance of the following tasks:
 - (i) Aeromedical factors;
 - (ii) Visual Scanning and collision avoidance;
 - (iii) Use of distractions during flight training;
 - (iv) Principles of flight;
 - (v) Helicopter flight controls;
 - (vi) Helicopter weight and balance;
 - (vii) Navigation and flight planning;
 - (viii) Night operations;
 - (ix) Regulations and publications;
 - (x) Use of minimum equipment list;
 - (xi) National airspace system;
 - (xii) Logbook entries and licence endorsements.
- (3) Preflight preparation including the applicant's knowledge and performance of the following tasks:
 - (i) Licences and documents;
 - (ii) Weather information;
 - (iii) Operation of systems;
 - (iv) Performance and limitations;
 - (v) Airworthiness requirements.
- (4) Preflight lesson on a manoeuvre to be performed in flight, including the applicant's knowledge and performance of the following task:
 - (i) Manoeuvre lesson.
- (5) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Preflight inspection;
 - (ii) Cockpit management;
 - (iii) Engine starting and rotor engagement;
 - (iv) Before takeoff check.
- (6) Aerodrome operations and Heliport operations, including the applicant's knowledge and performance of the following tasks:

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- (i) Radio communications and ATC light signals;
 - (ii) Traffic patterns;
 - (iii) Aerodrome and Heliport Markings and lighting.
 - (7) Hovering Manoeuvres. including the applicant's knowledge and performance of the following tasks:
 - (i) Vertical takeoff and landing;
 - (ii) Surface taxi;
 - (iii) Hover taxi;
 - (iv) Air taxi;
 - (v) Slope operation.
 - (8) Takeoffs, landings and go-arounds, including the applicant's knowledge and performance of the following tasks:
 - (i) Normal and crosswind takeoff and climb;
 - (ii) Maximum performance takeoff and climb;
 - (iii) Rolling takeoff;
 - (iv) Normal and crosswind approach;
 - (v) Steep approach;
 - (vi) Shallow approach and running/roll-on landing;
 - (vii) Go-around.
 - (9) Fundamentals of flight, including the applicant's knowledge and performance of the following tasks:
 - (i) Straight-and-level flight;
 - (ii) Level turns;
 - (iii) Straight climbs and climbing turns;
 - (iv) Straight descents and descending turns.
 - (10) Performance manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Rapid deceleration;
 - (ii) Straight-in autorotation;
 - (iii) 180 degrees autorotation.
 - (11) Emergency operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Power failure at a hover;
 - (ii) Power failure at altitude;
 - (iii) Settling-with-power;
 - (iv) Low rotor RPM recovery;
 - (v) Antitorque system failure;
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- (vi) Dynamic rollover;
 - (vii) Ground resonance;
 - (viii) Low “G” conditions;
 - (ix) Systems and equipment malfunctions;
 - (x) Emergency equipment and survival gear.
- (12) Special operations, including the applicant’s knowledge and performance of the following tasks:
 - (i) Confined area operation;
 - (ii) Pinnacle/platform operation.
- (13) Post-flight procedures, including the applicant’s knowledge and performance of the following task:
 - (i) After-landing and securing.
- (c) **Powered-lift Category.**
- (1) Reserved.
- (d) **Airship Category.** The skill test and proficiency check for the flight instructor rating for airship shall include at least the following areas of operation with CRM competencies applied and evident in all tasks appropriate to the category of aircraft:
 - (1) Fundamentals of instruction, including the applicant’s knowledge and performance of the following tasks:
 - (i) The learning process;
 - (ii) The teaching process;
 - (iii) Teaching methods;
 - (iv) Evaluation;
 - (v) Flight instructor characteristics and responsibilities;
 - (vi) Human factors;
 - (vii) Planning instructional activity.
 - (2) Technical subject areas, including the applicant’s knowledge and performance of the following tasks:
 - (i) Aeromedical factors;
 - (ii) Visual Scanning and collision avoidance
 - (iii) Use of distractions during flight training;
 - (iv) Principles of flight;
 - (v) Airship weigh-off, ballast, and trim;
 - (vi) Night operations;
 - (vii) Regulations and publications;
 - (viii) National airspace system;
 - (ix) Logbook entries and licence endorsement.

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- (3) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
 - (i) Licences and documents;
 - (ii) Weather information;
 - (iii) Cross-country flight planning;
 - (iv) Performance and limitations;
 - (v) Operations of systems.
 - (4) Preflight lesson on a manoeuvre to be performed in flight, including the applicant's and performance of the following task:
 - (i) Manoeuvre lesson.
 - (5) Preflight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Preflight inspection;
 - (ii) Cockpit management;
 - (iii) Engine starting;
 - (iv) Unmasting and positioning for takeoff;
 - (v) Ground handling;
 - (vi) Before takeoff check.
 - (6) Aerodrome operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Radio communications;
 - (ii) Traffic pattern operations;
 - (iii) Aerodrome, runway and taxiway markings and lighting.
 - (7) Performance manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Flight to, from, and at pressure height;
 - (ii) In-flight weigh-off;
 - (iii) Manual pressure control;
 - (iv) Static and dynamic trim.
 - (8) Navigation, including the applicant's knowledge and performance of the following tasks:
 - (i) Pilotage and dead reckoning;
 - (ii) Diversion;
 - (iii) Lost procedures;
 - (iv) Navigation systems and air traffic control radar services.
 - (9) Basic instrument manoeuvres, including the applicant's knowledge and performance of the following tasks:
 - (i) Straight-and level flight;
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- (ii) Constant airspeed climbs;
 - (iii) Constant airspeed descents;
 - (iv) Turns to headings;
 - (v) Recovery from unusual flight attitudes.
- (10) Emergency operations, including the applicant's knowledge and performance of the following tasks:
 - (i) Aborted takeoff;
 - (ii) Engine failure during takeoff;
 - (iii) Engine failure during flight;
 - (iv) Engine fire during flight;
 - (v) Envelope emergencies;
 - (vi) Free ballooning;
 - (vii) Ditching and emergency landing;
 - (viii) Systems and equipment malfunctions.
- (11) Post-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Mastings;
 - (ii) Post-masting.
- (e) **Flight Instructor for Instrument Ratings (A, H, and PL).** The skill test and proficiency for the flight instructor for instrument ratings for aeroplane, helicopter and powered-lift shall include at least the following areas of operation with CRM competencies applied and evident in all tasks appropriate to the category, and if applicable class, of aircraft:

Note 1: When (SE) is indicated, the item or paragraph is only for single-engine, when (ME) is indicated the item or paragraphs is only for multi-engine. When nothing is indicated, the item and paragraph are for single-engine and multi-engine.

Note 2: When (A) is indicated, the item or paragraph is only for Aeroplane. When (H) is indicated, the item or paragraph is only for Helicopter. When nothing is indicated, the item and the paragraph are for all categories.

- (1) Fundamentals of instructing, including the applicant's knowledge and performance of the following tasks:
 - (i) The learning process;
 - (ii) Human behaviour and effective communication;
 - (iii) The teaching process;
 - (iv) Teaching methods;
 - (v) Critique and evaluation;
 - (vi) Flight instructor characteristics and responsibilities;
 - (vii) Planning instructional activity.
- (2) Technical subject areas, including the applicant's knowledge and performance of the following tasks:
 - (i) Aircraft flight instruments and navigation equipment;

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- (ii) Aeromedical factors;
 - (iii) Regulations and publications related to IFR operations;
 - (iv) Logbook entries related to instrument instruction.
- (3) Preflight preparation, including the applicant's knowledge and performance of the following tasks:
- (i) Weather information;
 - (ii) Cross-country flight planning;
 - (iii) Instrument cockpit check.
- (4) Preflight lesson on a manoeuvre to be performed in flight, including the applicant's knowledge and performance of the following task:
- (i) Manoeuvre lesson.
- (5) Air traffic control clearances and procedures, including the applicant's knowledge and performance of the following tasks:
- (i) Air traffic control clearances;
 - (ii) Compliance with departure, en-route and arrival procedures and clearances.
- (6) Flight by reference to instruments, including the applicant's knowledge and performance of the following tasks:
- (i) Straight-and-level flight;
 - (ii) Turns;
 - (iii) Change of airspeed in straight-and-level and turning flight;
 - (iv) Constant airspeed climbs and descents;
 - (v) Constant rate climbs and descents;
 - (vi) Timed turns to magnetic compass headings;
 - (vii) Steep turns;
 - (viii) Recovery from unusual flight altitudes.
- (7) Navigation systems, including the applicant's knowledge and performance of the following tasks:
- (i) Intercepting and tracking navigational systems and DME Arcs;
 - (ii) Holding procedures.
- (8) Instrument approach procedures, including the applicant's knowledge and performance of the following tasks:
- (i) Non-precision instrument approach;
 - (ii) Precision instrument approach;
 - (iii) Missed approach;
 - (iv) Circling approach (A);
 - (v) Landing from a straight-in approach.
- (9) Emergency operations, including the applicant's knowledge and performance of the following tasks:

- (i) Loss of communications;
 - (ii) Loss of gyro attitude and heading indicators;
 - (iii) Engine failure during straight-and-level flight and turns;
 - (iv) Instrument approach – one engine inoperative.
- (10) Post-flight procedures, including the applicant's knowledge and performance of the following task:
- (i) Checking instruments and equipment.

(f) Flight Instructor for Additional Type Ratings. The skill test and proficiency checks for instructors for additional type ratings for aeroplane and helicopter shall include at least the following areas of operation:

Note: When (A) is indicated, the item or paragraph is only for Aeroplane. When (H) is indicated, the item or paragraph is only for Helicopter. When nothing is indicated, the item and the paragraph are for Aeroplane and Helicopter.

- (1) Technical subject areas
 - (i) The content of the technical subject areas shall cover the areas as applicable to the aircraft class or type.
 - (ii) Flight simulator, including the applicant's knowledge and performance of the following tasks:
 - (A) Use of checklist, setting of radios/navigation aids;
 - (B) Starting engines;
 - (C) Takeoff checks;
 - (D) Instrument takeoff, transition to instruments after lift off;
 - (E) Engine failure during take-off between V1 and V2 (A);
 - (F) Aborted takeoff prior to reaching V1 (A);
 - (G) High mach buffeting, specific flight characteristics (if necessary) (A);
 - (H) Takeoff with engine failure prior to TDP or DPATO or shortly after TDP or DPATO (H);
 - (I) Steep turns;
 - (J) Recovery from approach to stall/takeoff, clean landing configuration (A);
 - (K) Instrument approach to required minimum decision height or minimum descent height/altitude, manual one engine simulated inoperative during approach and landing or go-around (A);
 - (L) Instrument approach to required minimum decision height or minimum descent height/altitude, autopilot one engine simulated inoperative during approach and landing or go-around (H);
 - (M) Rejected landing and go-around;
 - (N) Crosswind landing.
 - (iii) Category II and III operations, if applicable, including the applicant's knowledge and performance of the following tasks:

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- (A) Precision approaches, automatic with auto-throttle and flight director go-around caused by aircraft or ground equipment deficiencies;
 - (B) Go-around caused by weather conditions;
 - (C) Go-around at DH caused by offset position from centerline;
 - (D) One of the CAT II/CAT III approaches must lead to a landing.
- (iv) Aircraft, including the applicant's knowledge and performance of the following tasks:
- (A) Familiarisation with controls during outside checks;
 - (B) Use of checklist, setting of radios and navigation aids, starting engines.
 - (C) Taxiing;
 - (D) Takeoff;
 - (E) Engine failure during takeoff short after V2, after reaching climb out attitude (A);
 - (F) Engine failure during takeoff short after TDP or DPATO after reaching climb out attitude (H);
 - (G) Other emergency procedures (if necessary);
 - (H) Instrument approaches to required minimum decision height, manual one engine out during approach and landing or go-around;
 - (I) One engine simulated inoperative go-around from required minimum decision height;
 - (J) One engine (critical) simulated inoperative landing.

IS 2.3.10.1 SKILL TEST FOR DESIGNATED PILOT EXAMINERS

- (a) The skill test for initial designation of a pilot examiner, issuance of additional designations, and renewal of examiner designations shall contain both the appropriate oral questioning and aircraft or flight simulation training device performance in accordance with the applicable skill test for the aircraft category, and or class/type ratings as applicable.
- (b) Methods of skill testing. The Authority inspector will choose one of the following methods to test an examiner pilot applicant. The methods are listed in order of preference but scheduling difficulties may preclude use of the preferred method of testing.
 - (1) The Authority inspector evaluates the pilot examiner applicant testing an actual pilot applicant for a licence or rating.
 - (i) The Authority will arrange for the pilot examiner applicant to conduct a skill test for an actual pilot applicant for a licence or rating appropriate to the examiner designation sought, and the Authority inspector will observe the test from within the aircraft.
 - (ii) The Authority inspector will evaluate the pilot examiner applicant's performance while the pilot examiner applicant evaluates the pilot applicant.
 - (iii) Any discussion between the pilot examiner applicant and the Authority inspector concerning the pilot examiner applicant's performance with the pilot applicant will be held in private.
 - (iv) At the conclusion of the skill test for the actual pilot licence or rating:

- (A) If the applicant has passed the skill test, the pilot examiner applicant will fill out the appropriate documentation for the pilot applicant while the Authority inspector observes. The Authority inspector will sign any documentation needed.
 - (B) If the pilot applicant does not pass the skill test, the Authority inspector will complete and sign the appropriate document needed.
- (2) The Authority inspector playing the role of pilot applicant for a skill test.
 - (i) The Authority inspector will play the role of a pilot applicant for a skill test appropriate to the type of designation the pilot examiner applicant is seeking.
 - (ii) If the Authority inspector answers a question incorrectly to test whether the pilot examiner applicant recognises an incorrect answer, the incorrect response must be obviously wrong.
- (3) The Authority inspector gives a flight skill test to the pilot examiner applicant.
 - (i) The Authority inspector will test the pilot examiner applicant on selected manoeuvres in order to assess the pilot examiner applicant's flight proficiency and ability to evaluate a pilot applicant in accordance with the appropriate skill test.
 - (ii) The Authority inspector will evaluate the pilot examiner applicant's plan of action for completeness and efficiency.

IS 2.6.1.4 RESERVED THIS IS OBTAINABLE AT THE AUTHORITY.

IS 2.6.1.7 Basic Knowledge Requirements

1. Knowledge levels for Category A, B1, B2, B3 and C Aircraft Maintenance Licence

Basic knowledge for categories A, B1, B2 and B3 are indicated by knowledge levels (1, 2 or 3) against each applicable subject. Category C applicants shall meet either the category B1 or the category B2 basic knowledge levels.

The knowledge level indicators are defined on 3 levels as follows:

a) **LEVEL 1:** *A familiarisation with the principal elements of the subject.*

Objectives:

- (1) The applicant should be familiar with the basic elements of the subject.
- (2) The applicant should be able to give a simple description of the whole subject, using common words and examples.
- (3) The applicant should be able to use typical terms.

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- b) **LEVEL 2:** *A general knowledge of the theoretical and practical aspects of the subject and an ability to apply that knowledge.*

Objectives:

- (1) The applicant should be able to understand the theoretical fundamentals of the subject.
- (2) The applicant should be able to give a general description of the subject using, as appropriate, typical examples.
- (3) The applicant should be able to use mathematical formulae in conjunction with physical laws describing the subject.
- (4) The applicant should be able to read and understand sketches, drawings and schematics describing the subject.
- (5) The applicant should be able to apply his knowledge in a practical manner using detailed procedures.

- c) **LEVEL 3:** *A detailed knowledge of the theoretical and practical aspects of the subject and a capacity to combine and apply the separate elements of knowledge in a logical and comprehensive manner.*

Objectives:

- (1) The applicant should know the theory of the subject and interrelationships with other subjects.
- (2) The applicant should be able to give a detailed description of the subject using theoretical fundamentals and specific examples.
- (3) The applicant should understand and be able to use mathematical formulae related to the subject.
- (4) The applicant should be able to read, understand and prepare sketches, simple drawings and schematics describing the subject.
- (5) The applicant should be able to apply his knowledge in a practical manner using manufacturer's instructions.
- (6) The applicant should be able to interpret results from various sources and measurements and apply corrective action where appropriate.

2. Modularisation

Qualification on basic subjects for each aircraft maintenance licence category or subcategory should be in accordance with the following matrix, where applicable subjects are indicated by an 'X':

A or B1 aeroplane with:	A or B1 helicopter with:	B2	B3
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Part 2 — Personnel Licensing

Subject module	Turbine engine(s)	Piston engine(s)	Turbine engine(s)	Piston engine(s)	Avionics	Piston-engine non-pressurised aeroplanes 2 000 kg MTOM
1	X	X	X	X	X	X
2	X	X	X	X	X	X
3	X	X	X	X	X	X
4	X	X	X	X	X	X
5	X	X	X	X	X	X
6	X	X	X	X	X	X
7A	X	X	X	X	X	
7B						X
8	X	X	X	X	X	X
9A	X	X	X	X	X	
9B						X
10	X	X	X	X	X	X
11A	X					
11B		X				
11C						X
12			X	X		
13					X	
14					X	
15	X		X			
16		X		X		X
17A	X	X				
17B						X

MODULE 1. MATHEMATICS

	LEVEL
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	A	B1	B2	B3
1.1 Arithmetic Arithmetical terms and signs, methods of multiplication and division, fractions and decimals, factors and multiples, weights, measures and conversion factors, ratio and proportion, averages and percentages, areas and volumes, squares, cubes, square and cube roots.	1	2	2	2
1.2 Algebra				
(a) Evaluating simple algebraic expressions, addition, subtraction, multiplication and division, use of brackets, simple algebraic fractions;	1	2	2	2
(b) Linear equations and their solutions; Indices and powers, negative and fractional indices; Binary and other applicable numbering systems; Simultaneous equations and second degree equations with one unknown; Logarithms.	—	1	1	1
1.3 Geometry				
(a) Simple geometrical constructions;	—	1	1	1
(b) Graphical representation; nature and uses of graphs, graphs of equations/functions;	2	2	2	2
(c) Simple trigonometry; trigonometrical relationships, use of tables and rectangular and polar coordinates.	—	2	2	2

MODULE 2. PHYSICS

	LEVEL			
	A	B1	B2	B3
2.1 Matter	1	1	1	1
Nature of matter: the chemical elements, structure of atoms, molecules;				
Chemical compounds;				
States: solid, liquid and gaseous;				
Changes between states.				
2.2 Mechanics				
2.2.1 Statics	1	2	1	1
Forces, moments and couples, representation as vectors;				

	LEVEL			
	A	B1	B2	B3

Centre of gravity;				
Elements of theory of stress, strain and elasticity: tension, compression, shear and torsion;				
Nature and properties of solid, fluid and gas;				
Pressure and buoyancy in liquids (barometers).				
2.2.2 Kinetics				
	1	2	1	1
Linear movement: uniform motion in a straight line, motion under constant acceleration (motion under gravity);				
Rotational movement: uniform circular motion (centrifugal/centripetal forces);				
Periodic motion: pendular movement;				
Simple theory of vibration, harmonics and resonance;				
Velocity ratio, mechanical advantage and efficiency.				
2.2.3 Dynamics				
(a) Mass;				
Force, inertia, work, power, energy (potential, kinetic and total energy), heat, efficiency;	1	2	1	1
(b) Momentum, conservation of momentum;				
Impulse;	1	2	2	1
Gyroscopic principles;				
Friction: nature and effects, coefficient of friction (rolling resistance).				
2.2.4 Fluid dynamics				
(a) Specific gravity and density;				
	2	2	2	2
(b) Viscosity, fluid resistance, effects of streamlining;				
	1	2	1	1
Effects of compressibility on fluids;				
Static, dynamic and total pressure: Bernoulli's Theorem, venturi.				
2.3 Thermodynamics				
(a) Temperature: thermometers and temperature scales: Celsius, Fahrenheit and Kelvin; Heat definition;	2	2	2	2

	LEVEL			
	A	B1	B2	B3
(b) Heat capacity, specific heat; Heat transfer: convection, radiation and conduction; Volumetric expansion; First and second law of thermodynamics; Gases: ideal gases laws; specific heat at constant volume and constant pressure, work done by expanding gas; Isothermal, adiabatic expansion and compression, engine cycles, constant volume and constant pressure, refrigerators and heat pumps; Latent heats of fusion and evaporation, thermal energy, heat of combustion.	—	2	2	1
2.4 Optics (Light) Nature of light; speed of light; Laws of reflection and refraction: reflection at plane surfaces, reflection by spherical mirrors, refraction, lenses; Fibre optics.	—	2	2	—
2.5 Wave Motion and Sound Wave motion: mechanical waves, sinusoidal wave motion, interference phenomena, standing waves; Sound: speed of sound, production of sound, intensity, pitch and quality, Doppler effect.	—	2	2	—

MODULE 3. ELECTRICAL FUNDAMENTALS

	LEVEL			
	A	B1	B2	B3
3.1 Electron Theory Structure and distribution of electrical charges within: atoms, molecules, ions, compounds; Molecular structure of conductors, semiconductors and insulators.	1	1	1	1
3.2 Static Electricity and Conduction Static electricity and distribution of electrostatic charges; Electrostatic laws of attraction and repulsion; Units of charge, Coulomb's Law; Conduction of electricity in solids, liquids, gases and a vacuum.	1	2	2	1

	LEVEL			
	A	B1	B2	B3
3.3 Electrical Terminology The following terms, their units and factors affecting them: potential difference, electromotive force, voltage, current, resistance, conductance, charge, conventional current flow, electron flow.	1	2	2	1
3.4 Generation of Electricity Production of electricity by the following methods: light, heat, friction, pressure, chemical action, magnetism and motion.	1	1	1	1
3.5 DC Sources of Electricity Construction and basic chemical action of: primary cells, secondary cells, lead acid cells, nickel cadmium cells, other alkaline cells; Cells connected in series and parallel; Internal resistance and its effect on a battery; Construction, materials and operation of thermo-couples; Operation of photo-cells.	1	2	2	2
3.6 DC Circuits Ohms Law, Kirchoff's Voltage and Current Laws; Calculations using the above laws to find resistance, voltage and current; Significance of the internal resistance of a supply.	—	2	2	1
3.7 Resistance/Resistor (a) Resistance and affecting factors; Specific resistance; Resistor colour code, values and tolerances, preferred values, wattage ratings; Resistors in series and parallel; Calculation of total resistance using series, parallel and series parallel combinations; Operation and use of potentiometers and rheostats; Operation of Wheatstone Bridge;	—	2	2	1

	LEVEL			
	A	B1	B2	B3
(b) Positive and negative temperature coefficient conductance; Fixed resistors, stability, tolerance and limitations, methods of construction; Variable resistors, thermistors, voltage dependent resistors; Construction of potentiometers and rheostats; Construction of Wheatstone Bridge.	—	1	1	—
3.8 Power Power, work and energy (kinetic and potential); Dissipation of power by a resistor; Power formula; Calculations involving power, work and energy.	—	2	2	1
3.9 Capacitance/Capacitor Operation and function of a capacitor; Factors affecting capacitance area of plates, distance between plates, number of plates, dielectric and dielectric constant, working voltage, voltage rating; Capacitor types, construction and function; Capacitor colour coding; Calculations of capacitance and voltage in series and parallel circuits; Exponential charge and discharge of a capacitor, time constants; Testing of capacitors.	—	2	2	1
3.10 Magnetism (a) Theory of magnetism; Properties of a magnet; Action of a magnet suspended in the Earth's magnetic field; Magnetisation and demagnetisation; Magnetic shielding; Various types of magnetic material; Electromagnets construction and principles of operation; Hand clasp rules to determine: magnetic field around current carrying conductor;	—	2	2	1
(b) Magnetomotive force, field strength, magnetic flux density, permeability, hysteresis loop, retentivity, coercive force reluctance, saturation point, eddy currents; Precautions for care and storage of magnets.	—	2	2	1

	LEVEL			
	A	B1	B2	B3
3.11 Inductance/Inductor Faraday's Law; Action of inducing a voltage in a conductor moving in a magnetic field; Induction principles; Effects of the following on the magnitude of an induced voltage: magnetic field strength, rate of change of flux, number of conductor turns; Mutual induction; The effect the rate of change of primary current and mutual inductance has on induced voltage; Factors affecting mutual inductance: number of turns in coil, physical size of coil, permeability of coil, position of coils with respect to each other; Lenz's Law and polarity determining rules; Back emf, self induction; Saturation point; Principle uses of inductors.	—	2	2	1
3.12 DC Motor/Generator Theory Basic motor and generator theory; Construction and purpose of components in DC generator; Operation of, and factors affecting output and direction of current flow in DC generators; Operation of, and factors affecting output power, torque, speed and direction of rotation of DC motors; Series wound, shunt wound and compound motors; Starter Generator construction.	—	2	2	1
3.13 AC Theory Sinusoidal waveform: phase, period, frequency, cycle; Instantaneous, average, root mean square, peak, peak to peak current values and calculations of these values, in relation to voltage, current and power; Triangular/Square waves; Single/3 phase principles.	1	2	2	1

	LEVEL			
	A	B1	B2	B3
3.14 Resistive (R), Capacitive (C) and Inductive (L) Circuits Phase relationship of voltage and current in L, C and R circuits, parallel, series and series parallel; Power dissipation in L, C and R circuits; Impedance, phase angle, power factor and current calculations; True power, apparent power and reactive power calculations.	—	2	2	1
3.15 Transformers Transformer construction principles and operation; Transformer losses and methods for overcoming them; Transformer action under load and no-load conditions; Power transfer, efficiency, polarity markings; Calculation of line and phase voltages and currents; Calculation of power in a three phase system; Primary and Secondary current, voltage, turns ratio, power, efficiency; Auto transformers.	—	2	2	1
3.16 Filters Operation, application and uses of the following filters: low pass, high pass, band pass, band stop.	—	1	1	—
3.17 AC Generators Rotation of loop in a magnetic field and waveform produced; Operation and construction of revolving armature and revolving field type AC generators; Single phase, two phase and three phase alternators; Three phase star and delta connections advantages and uses; Permanent Magnet Generators.	—	2	2	1

	LEVEL			
	A	B1	B2	B3
3.18 AC Motors Construction, principles of operation and characteristics of: AC synchronous and induction motors both single and polyphase; Methods of speed control and direction of rotation; Methods of producing a rotating field: capacitor, inductor, shaded or split pole.	—	2	2	1

MODULE 4. ELECTRONIC FUNDAMENTALS

	LEVEL			
	A	B1	B2	B3
4.1 Semiconductors				
4.1.1 Diodes				
(a) Diode symbols; Diode characteristics and properties; Diodes in series and parallel; Main characteristics and use of silicon controlled rectifiers (thyristors), light emitting diode, photo conductive diode, varistor, rectifier diodes; Functional testing of diodes.	—	2	2	1
(b) Materials, electron configuration, electrical properties; P and N type materials: effects of impurities on conduction, majority and minority characters; PN junction in a semiconductor, development of a potential across a PN junction in unbiased, forward biased and reverse biased conditions; Diode parameters: peak inverse voltage, maximum forward current, temperature, frequency, leakage current, power dissipation; Operation and function of diodes in the following circuits: clippers, clampers, full and half wave rectifiers, bridge rectifiers, voltage doublers and triplers; Detailed operation and characteristics of the following devices: silicon controlled rectifier (thyristor), light emitting diode, Schottky diode, photo conductive diode, varactor diode, varistor, rectifier diodes, Zener diode.	—	—	2	—
4.1.2 Transistors				
(a) Transistor symbols; Component description and orientation; Transistor characteristics and properties.	—	1	2	1

	LEVEL			
	A	B1	B2	B3
(b) Construction and operation of PNP and NPN transistors; Base, collector and emitter configurations; Testing of transistors; Basic appreciation of other transistor types and their uses; Application of transistors: classes of amplifier (A, B, C); Simple circuits including: bias, decoupling, feedback and stabilisation; Multistage circuit principles: cascades, push-pull, oscillators, multivibrators, flip-flop circuits.	—	—	2	—
4.1.3 Integrated Circuits				
(a) Description and operation of logic circuits and linear circuits/operational amplifiers;	—	1	—	1
(b) Description and operation of logic circuits and linear circuits; Introduction to operation and function of an operational amplifier used as: integrator, differentiator, voltage follower, comparator; Operation and amplifier stages connecting methods: resistive capacitive, inductive (transformer), inductive resistive (IR), direct; Advantages and disadvantages of positive and negative feedback.	—	—	2	—
4.2 Printed Circuit Boards				
Description and use of printed circuit boards.	—	1	2	—
4.3 Servomechanisms				
(a) Understanding of the following terms: Open and closed loop systems, feedback, follow up, analogue transducers; Principles of operation and use of the following synchro system components/features: resolvers, differential, control and torque, transformers, inductance and capacitance transmitters;	—	1	—	—
(b) Understanding of the following terms: Open and closed loop, follow up, servomechanism, analogue, transducer, null, damping, feedback, deadband; Construction operation and use of the following synchro system components: resolvers, differential, control and torque, E and I transformers, inductance transmitters, capacitance transmitters, synchronous transmitters; Servomechanism defects, reversal of synchro leads, hunting.	—	—	2	—

MODULE 5. DIGITAL TECHNIQUES/ELECTRONIC INSTRUMENT SYSTEMS

	LEVEL				
	A	B1-1 B1-3	B1-2 B1-4	B2	B3
5.1 Electronic Instrument Systems Typical systems arrangements and cockpit layout of electronic instrument systems.	1	2	2	3	1
5.2 Numbering Systems Numbering systems: binary, octal and hexadecimal; Demonstration of conversions between the decimal and binary, octal and hexadecimal systems and vice versa.	—	1	—	2	—
5.3 Data Conversion Analogue Data, Digital Data; Operation and application of analogue to digital, and digital to analogue converters, inputs and outputs, limitations of various types.	—	1	—	2	—
5.4 Data Buses Operation of data buses in aircraft systems, including knowledge of ARINC and other specifications. Aircraft Network/Ethernet.	—	2	—	2	—
5.5 Logic Circuits (a) Identification of common logic gate symbols, tables and equivalent circuits; Applications used for aircraft systems, schematic diagrams.	—	2	—	2	1
(b) Interpretation of logic diagrams.	—	—	—	2	—
5.6 Basic Computer Structure (a) Computer terminology (including bit, byte, software, hardware, CPU, IC, and various memory devices such as RAM, ROM, PROM); Computer technology (as applied in aircraft systems).	1	2	—	—	—

	LEVEL				
	A	B1-1 B1-3	B1-2 B1-4	B2	B3
(b) Computer related terminology; Operation, layout and interface of the major components in a micro computer including their associated bus systems; Information contained in single and multi-address instruction words; Memory associated terms; Operation of typical memory devices; Operation, advantages and disadvantages of the various data storage systems.	—	—	—	2	—
5.7 Microprocessors Functions performed and overall operation of a microprocessor; Basic operation of each of the following microprocessor elements: control and processing unit, clock, register, arithmetic logic unit.	—	—	—	2	—
5.8 Integrated Circuits Operation and use of encoders and decoders; Function of encoder types; Uses of medium, large and very large scale integration.	—	—	—	2	—
5.9 Multiplexing Operation, application and identification in logic diagrams of multiplexers and demultiplexers.	—	—	—	2	—
5.10 Fibre Optics Advantages and disadvantages of fibre optic data transmission over electrical wire propagation; Fibre optic data bus; Fibre optic related terms; Terminations; Couplers, control terminals, remote terminals; Application of fibre optics in aircraft systems.	—	1	1	2	—
5.11 Electronic Displays Principles of operation of common types of displays used in modern aircraft, including Cathode Ray Tubes, Light Emitting Diodes and Liquid Crystal Display.	—	2	1	2	1

	LEVEL				
	A	B1-1 B1-3	B1-2 B1-4	B2	B3
5.12 Electrostatic Sensitive Devices Special handling of components sensitive to electrostatic discharges; Awareness of risks and possible damage, component and personnel anti-static protection devices.	1	2	2	2	1
5.13 Software Management Control Awareness of restrictions, airworthiness requirements and possible catastrophic effects of unapproved changes to software programmes.	—	2	1	2	1
5.14 Electromagnetic Environment Influence of the following phenomena on maintenance practices for electronic system: EMC-Electromagnetic Compatibility EMI-Electromagnetic Interference HIRF-High Intensity Radiated Field Lightning/lightning protection.	—	2	2	2	1
5.15 Typical Electronic/Digital Aircraft Systems General arrangement of typical electronic/digital aircraft systems and associated BITE (Built In Test Equipment) such as: (a) <i>For B1 and B2 only:</i> ACARS-ARINC Communication and Addressing and Reporting System EICAS-Engine Indication and Crew Alerting System FBW-Fly-by-Wire FMS-Flight Management System IRS-Inertial Reference System; (b) <i>For B1, B2 and B3:</i> ECAM-Electronic Centralised Aircraft Monitoring EFIS-Electronic Flight Instrument System GPS-Global Positioning System TCAS-Traffic Alert Collision Avoidance System Integrated Modular Avionics Cabin Systems Information Systems.	—	2	2	2	1

MODULE 6. MATERIALS AND HARDWARE

	LEVEL			
	A	B1	B2	B3
6.1 Aircraft Materials — Ferrous				
(a) Characteristics, properties and identification of common alloy steels used in aircraft; Heat treatment and application of alloy steels.	1	2	1	2
(b) Testing of ferrous materials for hardness, tensile strength, fatigue strength and impact resistance.	—	1	1	1
6.2 Aircraft Materials — Non-Ferrous				
(a) Characteristics, properties and identification of common non-ferrous materials used in aircraft; Heat treatment and application of non-ferrous materials;	1	2	1	2
(b) Testing of non-ferrous material for hardness, tensile strength, fatigue strength and impact resistance.	—	1	1	1
6.3 Aircraft Materials — Composite and Non-Metallic				
6.3.1 Composite and non-metallic other than wood and fabric				
(a) Characteristics, properties and identification of common composite and non-metallic materials, other than wood, used in aircraft; Sealant and bonding agents;	1	2	2	2
(b) The detection of defects/deterioration in composite and non-metallic material; Repair of composite and non-metallic material.	1	2	—	2
6.3.2 Wooden structures	1	2	—	2
Construction methods of wooden airframe structures;				
Characteristics, properties and types of wood and glue used in aeroplanes;				
Preservation and maintenance of wooden structure;				
Types of defects in wood material and wooden structures;				
The detection of defects in wooden structure;				
Repair of wooden structure.				

	LEVEL			
	A	B1	B2	B3
<p>6.3.3 <i>Fabric covering</i></p> <p>Characteristics, properties and types of fabrics used in aeroplanes;</p> <p>Inspections methods for fabric;</p> <p>Types of defects in fabric;</p> <p>Repair of fabric covering.</p>	1	2	—	2
<p>6.4 Corrosion</p> <p>(a) Chemical fundamentals;</p> <p>Formation by, galvanic action process, microbiological, stress;</p> <p>(b) Types of corrosion and their identification;</p> <p>Causes of corrosion;</p> <p>Material types, susceptibility to corrosion.</p>	1	1	1	1
<p>6.5 Fasteners</p> <p>6.5.1 <i>Screw threads</i></p> <p>Screw nomenclature;</p> <p>Thread forms, dimensions and tolerances for standard threads used in aircraft;</p> <p>Measuring screw threads.</p>	2	2	2	2
<p>6.5.2 <i>Bolts, studs and screws</i></p> <p>Bolt types: specification, identification and marking of aircraft bolts, international standards;</p> <p>Nuts: self locking, anchor, standard types;</p> <p>Machine screws: aircraft specifications;</p> <p>Studs: types and uses, insertion and removal;</p> <p>Self tapping screws, dowels.</p>	2	2	2	2
<p>6.5.3 <i>Locking devices</i></p> <p>Tab and spring washers, locking plates, split pins, pal-nuts, wire locking, quick release fasteners, keys, circlips, cotter pins.</p>	2	2	2	2
<p>6.5.4 <i>Aircraft rivets</i></p> <p>Types of solid and blind rivets: specifications and identification, heat treatment.</p>	1	2	1	2

	LEVEL			
	A	B1	B2	B3
6.6 Pipes and Unions				
(a) Identification of, and types of rigid and flexible pipes and their connectors used in aircraft;	2	2	2	2
(b) Standard unions for aircraft hydraulic, fuel, oil, pneumatic and air system pipes.	2	2	1	2
6.7 Springs	—	2	1	1
Types of springs, materials, characteristics and applications.				
6.8 Bearings	1	2	2	1
Purpose of bearings, loads, material, construction;				
Types of bearings and their application.				
6.9 Transmissions	1	2	2	1
Gear types and their application;				
Gear ratios, reduction and multiplication gear systems, driven and driving gears, idler gears, mesh patterns;				
Belts and pulleys, chains and sprockets.				
6.10 Control Cables	1	2	1	2
Types of cables;				
End fittings, turnbuckles and compensation devices;				
Pulleys and cable system components;				
Bowden cables;				
Aircraft flexible control systems.				
6.11 Electrical Cables and Connectors	1	2	2	2
Cable types, construction and characteristics;				
High tension and co-axial cables;				
Crimping;				
Connector types, pins, plugs, sockets, insulators, current and voltage rating, coupling, identification codes.				

MODULE 7A. MAINTENANCE PRACTICES

Note: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 7B.

	LEVEL		
	A	B1	B2
7.1 Safety Precautions-Aircraft and Workshop Aspects of safe working practices including precautions to take when working with electricity, gases especially oxygen, oils and chemicals. Also, instruction in the remedial action to be taken in the event of a fire or another accident with one or more of these hazards including knowledge on extinguishing agents.	3	3	3
7.2 Workshop Practices Care of tools, control of tools, use of workshop materials; Dimensions, allowances and tolerances, standards of workmanship; Calibration of tools and equipment, calibration standards.	3	3	3
7.3 Tools Common hand tool types; Common power tool types; Operation and use of precision measuring tools; Lubrication equipment and methods. Operation, function and use of electrical general test equipment.	3	3	3
7.4 Avionic General Test Equipment Operation, function and use of avionic general test equipment.	—	2	3
7.5 Engineering Drawings, Diagrams and Standards Drawing types and diagrams, their symbols, dimensions, tolerances and projections; Identifying title block information; Microfilm, microfiche and computerised presentation; Specification 100 of the Air Transport Association (ATA) of America;	1	2	2

	LEVEL		
	A	B1	B2
Aeronautical and other applicable standards including ISO, AN, MS, NAS and MIL;			
Wiring diagrams and schematic diagrams.			
7.6 Fits and Clearances	1	2	1
Drill sizes for bolt holes, classes of fits;			
Common system of fits and clearances;			
Schedule of fits and clearances for aircraft and engines;			
Limits for bow, twist and wear;			
Standard methods for checking shafts, bearings and other parts.			
7.7 Electrical Wiring Interconnection System (EWIS)	1	3	3
Continuity, insulation and bonding techniques and testing;			
Use of crimp tools: hand and hydraulic operated;			
Testing of crimp joints;			
Connector pin removal and insertion;			
Co-axial cables: testing and installation precautions;			
Identification of wire types, their inspection criteria and damage tolerance.			
Wiring protection techniques: Cable looming and loom support, cable clamps, protective sleeving techniques including heat shrink wrapping, shielding;			
EWIS installations, inspection, repair, maintenance and cleanliness standards.			
7.8 Riveting	1	2	—
Riveted joints, rivet spacing and pitch;			
Tools used for riveting and dimpling;			
Inspection of riveted joints.			
7.9 Pipes and Hoses	1	2	—
Bending and belling/flaring aircraft pipes;			
Inspection and testing of aircraft pipes and hoses;			

	LEVEL		
	A	B1	B2
Installation and clamping of pipes.			
7.10 Springs	1	2	—
Inspection and testing of springs.			
7.11 Bearings	1	2	—
Testing, cleaning and inspection of bearings;			
Lubrication requirements of bearings;			
Defects in bearings and their causes.			
7.12 Transmissions	1	2	—
Inspection of gears, backlash;			
Inspection of belts and pulleys, chains and sprockets;			
Inspection of screw jacks, lever devices, push-pull rod systems.			
7.13 Control Cables	1	2	—
Swaging of end fittings;			
Inspection and testing of control cables;			
Bowden cables; aircraft flexible control systems.			
7.14 Material handling			
7.14.1 Sheet Metal	—	2	—
Marking out and calculation of bend allowance;			
Sheet metal working, including bending and forming;			
Inspection of sheet metal work.			
7.14.2 Composite and non-metallic	—	2	—
Bonding practices;			
Environmental conditions;			
Inspection methods.			
7.15 Welding, Brazing, Soldering and Bonding			
(a) Soldering methods; inspection of soldered joints.	—	2	2

	LEVEL		
	A	B1	B2
(b) Welding and brazing methods; Inspection of welded and brazed joints; Bonding methods and inspection of bonded joints.	—	2	—
7.16 Aircraft Weight and Balance			
(a) Centre of Gravity/Balance limits calculation: use of relevant documents;	—	2	2
(b) Preparation of aircraft for weighing; Aircraft weighing.	—	2	—
7.17 Aircraft Handling and Storage	2	2	2
Aircraft taxiing/towing and associated safety precautions;			
Aircraft jacking, chocking, securing and associated safety precautions;			
Aircraft storage methods;			
Refuelling/defuelling procedures;			
De-icing/anti-icing procedures;			
Electrical, hydraulic and pneumatic ground supplies.			
Effects of environmental conditions on aircraft handling and operation.			
7.18 Disassembly, Inspection, Repair and Assembly Techniques			
(a) Types of defects and visual inspection techniques; Corrosion removal, assessment and re-protection;	2	3	3
(b) General repair methods, Structural Repair Manual; Ageing, fatigue and corrosion control programmes;	—	2	—
(c) Non-destructive inspection techniques including, penetrant, radiographic, eddy current, ultrasonic and boroscope methods;	—	2	1

	LEVEL		
	A	B1	B2
(d) Disassembly and re-assembly techniques;	2	2	2
(e) Trouble shooting techniques.	—	2	2
7.19 Abnormal Events			
(a) Inspections following lightning strikes and HIRF penetration;	2	2	2
(b) Inspections following abnormal events such as heavy landings and flight through turbulence.	2	2	—
7.20 Maintenance Procedures	1	2	2
Maintenance planning;			
Modification procedures;			
Stores procedures;			
Certification/release procedures;			
Interface with aircraft operation;			
Maintenance Inspection/Quality Control/Quality Assurance;			
Additional maintenance procedures;			
Control of life limited components.			

MODULE 7B. MAINTENANCE PRACTICES

Note: The scope of this module shall reflect the technology of aeroplanes relevant to the B3 category.

	LEVEL
	B3
7.1 Safety Precautions-Aircraft and Workshop	3
Aspects of safe working practices including precautions to take when working with electricity, gases especially oxygen, oils and chemicals.	
Also, instruction in the remedial action to be taken in the event of a fire or another accident with one or more of these hazards including knowledge on extinguishing agents.	
7.2 Workshop Practices	3
Care of tools, control of tools, use of workshop materials;	
Dimensions, allowances and tolerances, standards of workmanship;	
Calibration of tools and equipment, calibration standards.	

	LEVEL
	B3
7.3 Tools Common hand tool types; Common power tool types; Operation and use of precision measuring tools; Lubrication equipment and methods; Operation, function and use of electrical general test equipment.	3
7.4 Avionic General Test Equipment Operation, function and use of avionic general test equipment.	—
7.5 Engineering Drawings, Diagrams and Standards Drawing types and diagrams, their symbols, dimensions, tolerances and projections; Identifying title block information; Microfilm, microfiche and computerised presentations; Specification 100 of the Air Transport Association (ATA) of America; Aeronautical and other applicable standards including ISO, AN, MS, NAS and MIL; Wiring diagrams and schematic diagrams.	2
7.6 Fits and Clearances Drill sizes for bolt holes, classes of fits; Common system of fits and clearances; Schedule of fits and clearances for aircraft and engines; Limits for bow, twist and wear; Standard methods for checking shafts, bearings and other parts.	2
7.7 Electrical Cables and Connectors Continuity, insulation and bonding techniques and testing; Use of crimp tools: hand and hydraulic operated; Testing of crimp joints; Connector pin removal and insertion; Co-axial cables: testing and installation precautions; Wiring protection techniques: Cable looming and loom support, cable clamps, protective sleeving techniques including heat shrink wrapping, shielding.	2

	LEVEL
	B3
7.8 Riveting	2
Riveted joints, rivet spacing and pitch;	
Tools used for riveting and dimpling;	
Inspection of riveted joints.	
7.9 Pipes and Hoses	2
Bending and belling/flaring aircraft pipes;	
Inspection and testing of aircraft pipes and hoses;	
Installation and clamping of pipes.	
7.10 Springs	1
Inspection and testing of springs.	
7.11 Bearings	2
Testing, cleaning and inspection of bearings;	
Lubrication requirements of bearings;	
Defects in bearings and their causes.	
7.12 Transmissions	2
Inspection of gears, backlash;	
Inspection of belts and pulleys, chains and sprockets;	
Inspection of screw jacks, lever devices, push-pull rod systems.	
7.13 Control Cables	2
Swaging of end fittings;	
Inspection and testing of control cables;	
Bowden cables; aircraft flexible control systems.	
7.14 Material handling	
7.14.1 Sheet Metal	2
Marking out and calculation of bend allowance;	
Sheet metal working, including bending and forming;	
Inspection of sheet metal work.	
7.14.2 Composite and non-metallic	2
Bonding practices;	
Environmental conditions;	
Inspection methods.	

	LEVEL
	B3
7.15 Welding, Brazing, Soldering and Bonding	
(a) Soldering methods; inspection of soldered joints;	2
(b) Welding and brazing methods; Inspection of welded and brazed joints; Bonding methods and inspection of bonded joints.	2
7.16 Aircraft Weight and Balance	
(a) Centre of Gravity/Balance limits calculation: use of relevant documents;	2
(b) Preparation of aircraft for weighing; Aircraft weighing.	2
7.17 Aircraft Handling and Storage	2
Aircraft taxiing/towing and associated safety precautions;	
Aircraft jacking, chocking, securing and associated safety precautions;	
Aircraft storage methods;	
Refuelling/defuelling procedures;	
De-icing/anti-icing procedures;	
Electrical, hydraulic and pneumatic ground supplies;	
Effects of environmental conditions on aircraft handling and operation.	
7.18 Disassembly, Inspection, Repair and Assembly Techniques	
(a) Types of defects and visual inspection techniques; Corrosion removal, assessment and re-protection;	3
(b) General repair methods, Structural Repair Manual; Ageing, fatigue and corrosion control programmes;	2
(c) Non-destructive inspection techniques including, penetrant, radiographic, eddy current, ultrasonic and boroscope methods;	2
(d) Disassembly and re-assembly techniques;	2
(e) Trouble shooting techniques.	2
7.19 Abnormal Events	
(a) Inspections following lightning strikes and HIRF penetration.	2
(b) Inspections following abnormal events such as heavy landings and flight through turbulence.	2

	LEVEL
	B3
7.20 Maintenance Procedures	2
Maintenance planning;	
Modification procedures;	
Stores procedures;	
Certification/release procedures;	
Interface with aircraft operation;	
Maintenance Inspection/Quality Control/Quality Assurance;	
Additional maintenance procedures;	
Control of life limited components.	

MODULE 8. BASIC AERODYNAMICS

	LEVEL			
	A	B1	B2	B3
8.1 Physics of the Atmosphere International Standard Atmosphere (ISA), application to aerodynamics.	1	2	2	1
8.2 Aerodynamics Airflow around a body; Boundary layer, laminar and turbulent flow, free stream flow, relative airflow, upwash and downwash, vortices, stagnation; The terms: camber, chord, mean aerodynamic chord, profile (parasite) drag, induced drag, centre of pressure, angle of attack, wash in and wash out, fineness ratio, wing shape and aspect ratio; Thrust, Weight, Aerodynamic Resultant; Generation of Lift and Drag: Angle of Attack, Lift coefficient, Drag coefficient, polar curve, stall; Aerofoil contamination including ice, snow, frost.	1	2	2	1
8.3 Theory of Flight Relationship between lift, weight, thrust and drag; Glide ratio; Steady state flights, performance;	1	2	2	1
	LEVEL			
	A	B1	B2	B3
Theory of the turn; Influence of load factor: stall, flight envelope and structural limitations; Lift augmentation.				
8.4 Flight Stability and Dynamics Longitudinal, lateral and directional stability (active and passive).	1	2	2	1

MODULE 9A. HUMAN FACTORS

Note: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 9B.

	LEVEL		
	A	B1	B2
9.1 General The need to take human factors into account; Incidents attributable to human factors/human error; ‘Murphy’s’ law.	1	2	2
9.2 Human Performance and Limitations Vision; Hearing; Information processing; Attention and perception; Memory; Claustrophobia and physical access.	1	2	2
9.3 Social Psychology Responsibility: individual and group; Motivation and de-motivation; Peer pressure; ‘Culture’ issues; Team working; Management, supervision and leadership.	1	1	1

	LEVEL		
	A	B1	B2
9.4 Factors Affecting Performance	2	2	2
Fitness/health;			
Stress: domestic and work related;			
Time pressure and deadlines;			
Workload: overload and underload;			
Sleep and fatigue, shiftwork;			
Alcohol, medication, drug abuse.			
9.5 Physical Environment	1	1	1
Noise and fumes;			
Illumination;			
Climate and temperature;			
Motion and vibration;			
Working environment.			
9.6 Tasks	1	1	1
Physical work;			
Repetitive tasks;			
Visual inspection;			
Complex systems.			
9.7 Communication	2	2	2
Within and between teams;			
Work logging and recording;			
Keeping up to date, currency;			
Dissemination of information.			
9.8 Human Error	1	2	2
Error models and theories;			
Types of error in maintenance tasks;			
Implications of errors (i.e. accidents);			
Avoiding and managing errors.			
9.9 Hazards in the Workplace	1	2	2
Recognising and avoiding hazards;			
<u>Dealing with emergencies.</u>			

MODULE 9B. HUMAN FACTORS

Note: The scope of this module shall reflect the less demanding environment of maintenance for B3 licence holders.

	LEVEL
	B3
9.1 General	2
The need to take human factors into account;	
Incidents attributable to human factors/human error;	
‘Murphy’s’ law.	
9.2 Human Performance and Limitations	2
Vision;	
Hearing;	
Information processing;	
Attention and perception;	
Memory;	
Claustrophobia and physical access.	
9.3 Social Psychology	1
Responsibility: individual and group;	
Motivation and de-motivation;	
Peer pressure;	
‘Culture’ issues;	
Team working;	
Management, supervision and leadership.	
9.4 Factors Affecting Performance	2
Fitness/health;	
Stress: domestic and work related;	
Time pressure and deadlines;	
Workload: overload and underload;	
Sleep and fatigue, shiftwork;	
Alcohol, medication, drug abuse.	
9.5 Physical Environment	1
Noise and fumes;	
Illumination;	
Climate and temperature;	
Motion and vibration;	

	LEVEL
	B3
Working environment.	
9.6 Tasks	1
Physical work;	
Repetitive tasks;	
Visual inspection;	
Complex systems.	
9.7 Communication	2
Within and between teams;	
Work logging and recording;	
Keeping up to date, currency;	
Dissemination of information.	
9.8 Human Error	2
Error models and theories;	
Types of error in maintenance tasks;	
Implications of errors (i.e. accidents);	
Avoiding and managing errors.	
9.9 Hazards in the Workplace	2
Recognising and avoiding hazards;	
Dealing with emergencies.	

MODULE 10. AVIATION LEGISLATION

	LEVEL			
	A	B1	B2	B3
10.1 Regulatory Framework	1	1	1	1
Role of the International Civil Aviation Organisation;				
Role of the CCAA;				
Relationship between the various Annexes (Parts) such as , Part-5, Part-6, Part-2, Part-3and Part 9, Part 9				

	LEVEL			
	A	B1	B2	B3
10.2 Certifying Staff — Maintenance	2	2	2	2
Detailed understanding of Part-3				
10.3 Approved Maintenance Organisations	2	2	2	2
Detailed understanding of Part-6 and Part-5.				
10.4 Air operations	1	1	1	1
General understanding of PART 8				
& 9 Air Operators Certificates;				
Operator's responsibilities, in particular regarding continuing airworthiness and maintenance;				
Aircraft Maintenance Programme;				
MEL//CDL;				
Documents to be carried on board;				
Aircraft placarding (markings).				
10.5 Certification of aircraft, parts and appliances				
(a) <i>General</i>	—	1	1	1
General understanding of Part 5 and the CCAA certification specifications .				
(b) <i>Documents</i>	—	2	2	2
Certificate of Airworthiness; restricted certificates of airworthiness and permit to fly;				
Certificate of Registration;				
Noise Certificate;				
Weight Schedule;				
Radio Station Licence and Approval.				
10.6 Continuing airworthiness	2	2	2	2
Detailed understanding of Part-5 provisions related to continuing airworthiness.				
Detailed understanding of Part-M.				

	LEVEL			
	A	B1	B2	B3
10.7 Applicable National and International Requirements for				
<p>(a) Maintenance Programmes, Maintenance checks and inspections;</p> <p>Airworthiness Directives;</p> <p>Service Bulletins, manufacturers service information;</p> <p>Modifications and repairs;</p> <p>Maintenance documentation: maintenance manuals, structural repair manual, illustrated parts catalogue, etc.;</p> <p><i>Only for A to B2 licences:</i></p> <p>Master Minimum Equipment Lists, Minimum Equipment List, Dispatch Deviation Lists;</p>	1	2	2	2
<p>(b) Continuing airworthiness;</p> <p>Minimum equipment requirements — Test flights;</p> <p><i>Only for B1 and B2 licences:</i></p> <p>ETOPS, maintenance and dispatch requirements;</p> <p>All Weather Operations, Category 2/3 operations.</p>	—	1	1	1

MODULE 11A. TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

	LEVEL	
	A1	B1.1
11.1 Theory of Flight		
11.1.1. <i>Aeroplane Aerodynamics and Flight Controls</i>	1	2
Operation and effect of:		
— roll control: ailerons and spoilers,		
— pitch control: elevators, stabilators, variable incidence stabilisers and canards,		
— yaw control, rudder limiters;		
Control using elevons, ruddervators;		
High lift devices, slots, slats, flaps, flaperons;		
Drag inducing devices, spoilers, lift dumpers, speed brakes;		
Effects of wing fences, saw tooth leading edges;		
Boundary layer control using, vortex generators, stall wedges or leading edge devices;		

	LEVEL	
	A1	B1.1
Operation and effect of trim tabs, balance and antibalance (leading) tabs, servo tabs, spring tabs, mass balance, control surface bias, aerodynamic balance panels.		
11.1.2. <i>High Speed Flight</i>	1	2
Speed of sound, subsonic flight, transonic flight, supersonic flight;		
Mach number, critical Mach number, compressibility buffet, shock wave, aerodynamic heating, area rule;		
Factors affecting airflow in engine intakes of high speed aircraft;		
Effects of sweepback on critical Mach number.		
11.2 Airframe Structures — General Concepts		
(a) Airworthiness requirements for structural strength;	2	2
Structural classification, primary, secondary and tertiary;		
Fail safe, safe life, damage tolerance concepts;		
Zonal and station identification systems;		
Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue;		
Drains and ventilation provisions;		
System installation provisions;		
Lightning strike protection provision;		
Aircraft bonding.		
(b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning, anti-corrosive protection, wing, empennage and engine attachments;	1	2
Structure assembly techniques: riveting, bolting, bonding;		
Methods of surface protection, such as chromating, anodising, painting;		
Surface cleaning;		
Airframe symmetry: methods of alignment and symmetry checks.		
11.3 Airframe Structures — Aeroplanes		
11.3.1 <i>Fuselage (ATA 52/53/56)</i>	1	2
Construction and pressurisation sealing;		
Wing, stabiliser, pylon and undercarriage attachments;		
Seat installation and cargo loading system;		
Doors and emergency exits: construction, mechanisms, operation and safety devices;		
Windows and windscreen construction and mechanisms.		

	LEVEL	
	A1	B1.1
11.3.2 <i>Wings (ATA 57)</i>	1	2
Construction;		
Fuel storage;		
Landing gear, pylon, control surface and high lift/drag attachments.		
11.3.3 <i>Stabilisers (ATA 55)</i>	1	2
Construction;		
Control surface attachment.		
11.3.4 <i>Flight Control Surfaces (ATA 55/57)</i>	1	2
Construction and attachment;		
Balancing — mass and aerodynamic.		
11.3.5 <i>Nacelles/Pylons (ATA 54)</i>	1	2
Nacelles/Pylons:		
— Construction,		
— Firewalls,		
— Engine mounts.		
11.4 Air Conditioning and Cabin Pressurisation (ATA 21)		
11.4.1 <i>Air supply</i>	1	2
Sources of air supply including engine bleed, APU and ground cart.		
11.4.2 <i>Air Conditioning</i>	1	3
Air conditioning systems;		
Air cycle and vapour cycle machines;		
Distribution systems;		
Flow, temperature and humidity control system.		
11.4.3 <i>Pressurisation</i>	1	3
Pressurisation systems;		
Control and indication including control and safety valves;		
Cabin pressure controllers.		
11.4.4 <i>Safety and warning devices</i>	1	3
Protection and warning devices.		

	LEVEL	
	A1	B1.1
11.5 Instruments/Avionic Systems		
11.5.1 <i>Instrument Systems (ATA 31)</i>	1	2
Pitot static: altimeter, air speed indicator, vertical speed indicator;		
Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator;		
Compasses: direct reading, remote reading;		
Angle of attack indication, stall warning systems;		
Glass cockpit;		
Other aircraft system indication.		
11.5.2 <i>Avionic Systems</i>	1	1
Fundamentals of system lay-outs and operation of:		
— Auto Flight (ATA 22),		
— Communications (ATA 23),		
— Navigation Systems (ATA 34).		
11.6 Electrical Power (ATA 24)	1	3
Batteries Installation and Operation;		
DC power generation;		
AC power generation;		
Emergency power generation;		
Voltage regulation;		
Power distribution;		
Inverters, transformers, rectifiers;		
Circuit protection;		
External/Ground power.		
11.7 Equipment and Furnishings (ATA 25)		
(a) Emergency equipment requirements;	2	2
Seats, harnesses and belts.		
(b) Cabin lay-out;	1	1
Equipment lay-out;		
Cabin Furnishing installation;		
Cabin entertainment equipment;		
Galley installation;		
Cargo handling and retention equipment;		
Airstairs.		

	LEVEL	
	A1	B1.1
11.8 Fire Protection (ATA 26)	1	3
(a) Fire and smoke detection and warning systems; Fire extinguishing systems; System tests;		
(b) Portable fire extinguisher.	1	1
11.9 Flight Controls (ATA 27)	1	3
Primary controls: aileron, elevator, rudder, spoiler; Trim control; Active load control; High lift devices; Lift dump, speed brakes; System operation: manual, hydraulic, pneumatic, electrical, fly-by-wire; Artificial feel, Yaw damper, Mach trim, rudder limiter, gust lock systems; Balancing and rigging; Stall protection/warning system.		
11.10 Fuel Systems (ATA 28)	1	3
System lay-out; Fuel tanks; Supply systems; Dumping, venting and draining; Cross-feed and transfer; Indications and warnings; Refuelling and defuelling; Longitudinal balance fuel systems.		
11.11 Hydraulic Power (ATA 29)	1	3
System lay-out; Hydraulic fluids; Hydraulic reservoirs and accumulators; Pressure generation: electric, mechanical, pneumatic; Emergency pressure generation; Filters; Pressure Control;		

	LEVEL	
	A1	B1.1
Power distribution;		
Indication and warning systems;		
Interface with other systems.		
11.12 Ice and Rain Protection (ATA 30)	1	3
Ice formation, classification and detection;		
Anti-icing systems: electrical, hot air and chemical;		
De-icing systems: electrical, hot air, pneumatic and chemical;		
Rain repellent;		
Probe and drain heating;		
Wiper systems.		
11.13 Landing Gear (ATA 32)	2	3
Construction, shock absorbing;		
Extension and retraction systems: normal and emergency;		
Indications and warning;		
Wheels, brakes, antiskid and autobraking;		
Tyres;		
Steering;		
Air-ground sensing.		
11.14 Lights (ATA 33)	2	3
External: navigation, anti collision, landing, taxiing, ice;		
Internal: cabin, cockpit, cargo;		
Emergency.		
11.15 Oxygen (ATA 35)	1	3
System lay-out: cockpit, cabin;		
Sources, storage, charging and distribution;		
Supply regulation;		
Indications and warnings.		
11.16 Pneumatic/Vacuum (ATA 36)	1	3
System lay-out;		
Sources: engine/APU, compressors, reservoirs, ground supply;		
Pressure control;		

	LEVEL	
	A1	B1.1
Distribution;		
Indications and warnings;		
Interfaces with other systems.		
11.17 Water/Waste (ATA 38)	2	3
Water system lay-out, supply, distribution, servicing and draining;		
Toilet system lay-out, flushing and servicing;		
Corrosion aspects.		
11.18 On Board Maintenance Systems (ATA 45)	1	2
Central maintenance computers;		
Data loading system;		
Electronic library system;		
Printing;		
Structure monitoring (damage tolerance monitoring).		
11.19 Integrated Modular Avionics (ATA42)	1	2
Functions that may be typically integrated in the Integrated Modular Avionic (IMA) modules are, among others:		
Bleed Management, Air Pressure Control, Air Ventilation and Control, Avionics and Cockpit Ventilation Control, Temperature Control, Air Traffic Communication, Avionics Communication Router, Electrical Load Management, Circuit Breaker Monitoring, Electrical System BITE, Fuel Management, Braking Control, Steering Control, Landing Gear Extension and Retraction, Tyre Pressure Indication, Oleo Pressure Indication, Brake Temperature Monitoring, etc.		
Core System; Network Components.		
11.20 Cabin Systems (ATA44)	1	2
The units and components which furnish a means of entertaining the passengers and providing communication within the aircraft (Cabin Inter-communication Data System) and between the aircraft cabin and ground stations (Cabin Network Service). Includes voice, data, music and video transmissions.		
The Cabin Intercommunication Data System provides an interface between cockpit/cabin crew and cabin systems. These systems support data exchange of the different related LRU's and they are typically operated via Flight Attendant Panels.		

	LEVEL	
	A1	B1.1
<p>The Cabin Network Service typically consists on a server, typically interfacing with, among others, the following systems:</p> <ul style="list-style-type: none"> — Data/Radio Communication, In-Flight Entertainment System. <p>The Cabin Network Service may host functions such as:</p> <ul style="list-style-type: none"> — Access to pre-departure/departure reports, — E-mail/intranet/Internet access, — Passenger database; <p>Cabin Core System;</p> <p>In-flight Entertainment System;</p> <p>External Communication System;</p> <p>Cabin Mass Memory System;</p> <p>Cabin Monitoring System;</p> <p>Miscellaneous Cabin System.</p>		
<p>11.21 Information Systems (ATA46)</p> <p>The units and components which furnish a means of storing, updating and retrieving digital information traditionally provided on paper, microfilm or microfiche. Includes units that are dedicated to the information storage and retrieval function such as the electronic library mass storage and controller. Does not include units or components installed for other uses and shared with other systems, such as flight deck printer or general use display.</p> <p>Typical examples include Air Traffic and Information Management Systems and Network Server Systems</p> <p>Aircraft General Information System;</p> <p>Flight Deck Information System;</p> <p>Maintenance Information System;</p> <p>Passenger Cabin Information System;</p> <p>Miscellaneous Information System.</p>	1	2

MODULE 11B. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Note 1: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 11C.

Note 2: The scope of this Module shall reflect the technology of aeroplanes pertinent to the A2 and B1.2 subcategory.

	LEVEL	
	A2	B1.2
11.1 Theory of Flight		
11.1.1. <i>Aeroplane Aerodynamics and Flight Controls</i>	1	2
Operation and effect of:		
— roll control: ailerons and spoilers,		
— pitch control: elevators, stabilators, variable incidence stabilisers and canards,		
— yaw control, rudder limiters;		

	LEVEL	
	A2	B1.2
Control using elevons, ruddervators;		
High lift devices, slots, slats, flaps, flaperons;		
Drag inducing devices, spoilers, lift dumpers, speed brakes;		
Effects of wing fences, saw tooth leading edges;		
Boundary layer control using, vortex generators, stall wedges or leading edge devices;		
Operation and effect of trim tabs, balance and antibalance (leading) tabs, servo tabs, spring tabs, mass balance, control surface bias, aerodynamic balance panels.		
11.1.2. <i>High Speed Flight — N/A</i>	—	—
11.2 Airframe Structures — General Concepts		
(a) Airworthiness requirements for structural strength;	2	2
Structural classification, primary, secondary and tertiary;		
Fail safe, safe life, damage tolerance concepts;		
Zonal and station identification systems;		
Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue;		
Drains and ventilation provisions;		
System installation provisions;		
Lightning strike protection provision;		
Aircraft bonding.		
(b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning, anti-corrosive protection, wing, empennage and engine attachments;	1	2
Structure assembly techniques: riveting, bolting, bonding;		
Methods of surface protection, such as chromating, anodising, painting;		
Surface cleaning;		
Airframe symmetry: methods of alignment and symmetry checks.		
11.3 Airframe Structures — Aeroplanes		
11.3.1 <i>Fuselage (ATA 52/53/56)</i>	1	2
Construction and pressurisation sealing;		
Wing, tail-plane, pylon and undercarriage attachments;		
Seat installation;		
Doors and emergency exits: construction and operation;		
Windows and windscreen attachment.		

	LEVEL	
	A2	B1.2
11.3.2 <i>Wings (ATA 57)</i> Construction; Fuel storage; Landing gear, pylon, control surface and high lift/drag attachments.	1	2
11.3.3 <i>Stabilisers (ATA 55)</i> Construction; Control surface attachment.	1	2
11.3.4 <i>Flight Control Surfaces (ATA 55/57)</i> Construction and attachment; Balancing — mass and aerodynamic.	1	2
11.3.5 <i>Nacelles/Pylons (ATA 54)</i> Nacelles/Pylons: — Construction, — Firewalls, — Engine mounts.	1	2
11.4 Air Conditioning and Cabin Pressurisation (ATA 21) Pressurisation and air conditioning systems; Cabin pressure controllers, protection and warning devices; Heating systems.	1	3
11.5 Instruments/Avionic Systems		
11.5.1 <i>Instrument Systems (ATA 31)</i> Pitot static: altimeter, air speed indicator, vertical speed indicator; Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator; Compasses: direct reading, remote reading; Angle of attack indication, stall warning systems; Glass cockpit; Other aircraft system indication.	1	2
11.5.2 <i>Avionic Systems</i> Fundamentals of system lay-outs and operation of: — Auto Flight (ATA 22), — Communications (ATA 23), — Navigation Systems (ATA 34).	1	1

	LEVEL	
	A2	B1.2
11.6 Electrical Power (ATA 24)	1	3
Batteries Installation and Operation;		
DC power generation;		
Voltage regulation;		
Power distribution;		
Circuit protection;		
Inverters, transformers.		
11.7 Equipment and Furnishings (ATA 25)		
(a) Emergency equipment requirements;	2	2
Seats, harnesses and belts;		
(b) Cabin lay-out;	1	1
Equipment lay-out;		
Cabin Furnishing installation;		
Cabin entertainment equipment;		
Galley installation;		
Cargo handling and retention equipment;		
Airstairs.		
11.8 Fire Protection (ATA 26)		
(a) Fire and smoke detection and warning systems;	1	3
Fire extinguishing systems;		
System tests;		
(b) Portable fire extinguisher.	1	3
11.9 Flight Controls (ATA 27)	1	3
Primary controls: aileron, elevator, rudder;		
Trim tabs;		
High lift devices;		
System operation: manual;		
Gust locks;		
Balancing and rigging;		
Stall warning system.		
11.10 Fuel Systems (ATA 28)	1	3
System lay-out;		
Fuel tanks;		
Supply systems;		
Cross-feed and transfer;		
Indications and warnings;		

	LEVEL	
	A2	B1.2
Refuelling and defuelling.		
11.11 Hydraulic Power (ATA 29)	1	3
System lay-out;		
Hydraulic fluids;		
Hydraulic reservoirs and accumulators;		
Pressure generation: electric, mechanical;		
Filters;		
Pressure Control;		
Power distribution;		
Indication and warning systems.		
11.12 Ice and Rain Protection (ATA 30)	1	3
Ice formation, classification and detection;		
De-icing systems: electrical, hot air, pneumatic and chemical;		
Probe and drain heating;		
Wiper systems.		
11.13 Landing Gear (ATA 32)	2	3
Construction, shock absorbing;		
Extension and retraction systems: normal and emergency;		
Indications and warning;		
Wheels, brakes, antiskid and autobraking;		
Tyres;		
Steering;		
Air-ground sensing.		
11.14 Lights (ATA 33)	2	3
External: navigation, anti collision, landing, taxiing, ice;		
Internal: cabin, cockpit, cargo;		
Emergency.		
11.15 Oxygen (ATA 35)	1	3
System lay-out: cockpit, cabin;		
Sources, storage, charging and distribution;		
Supply regulation;		
Indications and warnings.		

	LEVEL	
	A2	B1.2
11.16 Pneumatic/Vacuum (ATA 36) System lay-out; Sources: engine/APU, compressors, reservoirs, ground supply; Pressure control; Distribution; Indications and warnings; Interfaces with other systems.	1	3
11.17 Water/Waste (ATA 38) Water system lay-out, supply, distribution, servicing and draining; Toilet system lay-out, flushing and servicing; Corrosion aspects.	2	3

MODULE 11C. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Note: The scope of this module shall reflect the technology of aeroplanes pertinent to the B3 category.

	LEVEL
	B3
11.1 Theory of Flight	
<i>Aeroplane Aerodynamics and Flight Controls</i>	1
Operation and effect of: — roll control: ailerons, — pitch control: elevators, stabilators, variable incidence stabilisers and canards, — yaw control, rudder limiters; Control using elevons, ruddervators; High lift devices, slots, slats, flaps, flaperons; Drag inducing devices, lift dumpers, speed brakes; Effects of wing fences, saw tooth leading edges; Boundary layer control using, vortex generators, stall wedges or leading edge devices; Operation and effect of trim tabs, balance and anti-balance (leading) tabs, servo tabs, spring tabs, mass balance, control surface bias, aerodynamic balance panels.	

	LEVEL
	B3
11.2 Airframe Structures — General Concepts	
(a) Airworthiness requirements for structural strength; Structural classification, primary, secondary and tertiary; Fail safe, safe life, damage tolerance concepts; Zonal and station identification systems; Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue; Drains and ventilation provisions; System installation provisions; Lightning strike protection provision; Aircraft bonding;	2
(b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning, anti-corrosive protection, wing, empennage and engine attachments; Structure assembly techniques: riveting, bolting, bonding; Methods of surface protection, such as chromating, anodising, painting; Surface cleaning; Airframe symmetry: methods of alignment and symmetry checks.	2
11.3 Airframe Structures — Aeroplanes	
11.3.1 Fuselage (ATA 52/53/56)	1
Construction;	
Wing, tail-plane, pylon and undercarriage attachments;	
Seat installation;	
Doors and emergency exits: construction and operation;	
Window and windscreen attachment.	
11.3.2 Wings (ATA 57)	1
Construction;	
Fuel storage;	
Landing gear, pylon, control surface and high lift/drag attachments.	
11.3.3 Stabilisers (ATA 55)	1
Construction;	
Control surface attachment.	
11.3.4 Flight Control Surfaces (ATA 55/57)	1
Construction and attachment;	
Balancing — mass and aerodynamic.	

	LEVEL
	B3
11.3.5 <i>Nacelles/Pylons (ATA 54)</i>	
Nacelles/Pylons:	1
— Construction,	
— Firewalls,	
— Engine mounts.	
11.4 Air Conditioning (ATA 21)	
Heating and ventilation systems.	1
11.5 Instruments/Avionic Systems	
11.5.1 <i>Instrument Systems (ATA 31)</i>	1
Pitot static: altimeter, air speed indicator, vertical speed indicator;	
Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator;	
Compasses: direct reading, remote reading;	
Angle of attack indication, stall warning systems;	
Glass cockpit;	
Other aircraft system indication.	
11.5.2 <i>Avionic Systems</i>	1
Fundamentals of system lay-outs and operation of:	
— Auto Flight (ATA 22),	
— Communications (ATA 23),	
— Navigation Systems (ATA 34).	
11.6 Electrical Power (ATA 24)	2
Batteries Installation and Operation;	
DC power generation;	
Voltage regulation;	
Power distribution;	
Circuit protection;	
Inverters, transformers.	
11.7 Equipment and Furnishings (ATA 25)	2
Emergency equipment requirements;	
Seats, harnesses and belts.	

	LEVEL
	B3
11.8 Fire Protection (ATA 26)	2
Portable fire extinguisher.	
11.9 Flight Controls (ATA 27)	3
Primary controls: aileron, elevator, rudder;	
Trim tabs;	
High lift devices;	
System operation: manual;	
Gust locks;	
Balancing and rigging;	
Stall warning system.	
11.10 Fuel Systems (ATA 28)	2
System lay-out;	
Fuel tanks;	
Supply systems;	
Cross-feed and transfer;	
Indications and warnings;	
Refuelling and defuelling.	
11.11 Hydraulic Power (ATA 29)	2
System lay-out;	
Hydraulic fluids;	
Hydraulic reservoirs and accumulators;	
Pressure generation: electric, mechanical;	
Filters;	
Pressure Control;	
Power distribution;	
Indication and warning systems.	
11.12 Ice and Rain Protection (ATA 30)	1
Ice formation, classification and detection;	
De-icing systems: electrical, hot air, pneumatic and chemical;	
Probe and drain heating;	
Wiper systems.	

	LEVEL
	B3
11.13 Landing Gear (ATA 32) Construction, shock absorbing; Extension and retraction systems: normal and emergency; Indications and warning; Wheels, brakes, antiskid and autobraking; Tyres; Steering.	2
11.14 Lights (ATA 33) External: navigation, anti collision, landing, taxiing, ice; Internal: cabin, cockpit, cargo; Emergency.	2
11.15 Oxygen (ATA 35) System lay-out: cockpit, cabin; Sources, storage, charging and distribution; Supply regulation; Indications and warnings.	2
11.16 Pneumatic/Vacuum (ATA 36) System lay-out; Sources: engine/APU, compressors, reservoirs, ground supply; Pressure and vacuum pumps Pressure control; Distribution; Indications and warnings; Interfaces with other systems.	2

MODULE 12. HELICOPTER AERODYNAMICS, STRUCTURES AND SYSTEMS

	LEVEL	
	A3	B1.3
	A4	B1.4
12.1 Theory of Flight — Rotary Wing Aerodynamics	1	2
Terminology;		
Effects of gyroscopic precession;		

	LEVEL	
	A3 A4	B1.3 B1.4
<p>Torque reaction and directional control;</p> <p>Dissymmetry of lift, Blade tip stall;</p> <p>Translating tendency and its correction;</p> <p>Coriolis effect and compensation;</p> <p>Vortex ring state, power settling, overpitching;</p> <p>Auto-rotation;</p> <p>Ground effect.</p>		
<p>12.2 Flight Control Systems</p> <p>Cyclic control;</p> <p>Collective control;</p> <p>Swashplate;</p> <p>Yaw control: Anti-Torque Control, Tail rotor, bleed air;</p> <p>Main Rotor Head: Design and Operation features;</p> <p>Blade Dampers: Function and construction;</p> <p>Rotor Blades: Main and tail rotor blade construction and attachment;</p> <p>Trim control, fixed and adjustable stabilisers;</p> <p>System operation: manual, hydraulic, electrical and fly-by-wire;</p> <p>Artificial feel;</p> <p>Balancing and rigging.</p>	2	3
<p>12.3 Blade Tracking and Vibration Analysis</p> <p>Rotor alignment;</p> <p>Main and tail rotor tracking;</p> <p>Static and dynamic balancing;</p> <p>Vibration types, vibration reduction methods;</p> <p>Ground resonance.</p>	1	3
<p>12.4 Transmission</p> <p>Gear boxes, main and tail rotors;</p> <p>Clutches, free wheel units and rotor brake;</p> <p>Tail rotor drive shafts, flexible couplings, bearings, vibration dampers and bearing hangers.</p>	1	3

	LEVEL	
	A3 A4	B1.3 B1.4
12.5 Airframe Structures		
(a) Airworthiness requirements for structural strength; Structural classification, primary, secondary and tertiary; Fail safe, safe life, damage tolerance concepts; Zonal and station identification systems; Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue; Drains and ventilation provisions; System installation provisions; Lightning strike protection provision;	2	2
(b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning and anti-corrosive protection. Pylon, stabiliser and undercarriage attachments; Seat installation; Doors: construction, mechanisms, operation and safety devices; Windows and windscreen construction; Fuel storage; Firewalls; Engine mounts; Structure assembly techniques: riveting, bolting, bonding; Methods of surface protection, such as chromating, anodising, painting; Surface cleaning. Airframe symmetry: methods of alignment and symmetry checks.	1	2
12.6 Air Conditioning (ATA 21)		
12.6.1 <i>Air supply</i> Sources of air supply including engine bleed and ground cart.	1	2
12.6.2 <i>Air conditioning</i> Air conditioning systems; Distribution systems; Flow and temperature control systems; Protection and warning devices.	1	3
12.7 Instruments/Avionic Systems		
12.7.1 <i>Instrument Systems (ATA 31)</i> Pitot static: altimeter, air speed indicator, vertical speed indicator; Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator;	1	2

	LEVEL	
	A3 A4	B1.3 B1.4
Compasses: direct reading, remote reading;		
Vibration indicating systems — HUMS;		
Glass cockpit;		
Other aircraft system indication.		
12.7.2 Avionic Systems	1	1
Fundamentals of system layouts and operation of:		
Auto Flight (ATA 22);		
Communications (ATA 23);		
Navigation Systems (ATA 34).		
12.8 Electrical Power (ATA 24)	1	3
Batteries Installation and Operation;		
DC power generation, AC power generation;		
Emergency power generation;		
Voltage regulation, Circuit protection.		
Power distribution;		
Inverters, transformers, rectifiers;		
External/Ground power.		
12.9 Equipment and Furnishings (ATA 25)		
(a) Emergency equipment requirements;	2	2
Seats, harnesses and belts;		
Lifting systems;		
(b) Emergency flotation systems;	1	1
Cabin lay-out, cargo retention;		
Equipment lay-out;		
Cabin Furnishing Installation.		
12.10 Fire Protection (ATA 26)	1	3
Fire and smoke detection and warning systems;		
Fire extinguishing systems;		
System tests.		
12.11 Fuel Systems (ATA 28)	1	3
System lay-out;		
Fuel tanks;		
Supply systems;		
Dumping, venting and draining;		
Cross-feed and transfer;		

	LEVEL	
	A3 A4	B1.3 B1.4
Indications and warnings;		
Refuelling and defuelling.		
12.12 Hydraulic Power (ATA 29)	1	3
System lay-out;		
Hydraulic fluids;		
Hydraulic reservoirs and accumulators;		
Pressure generation: electric, mechanical, pneumatic;		
Emergency pressure generation;		
Filters;		
Pressure Control;		
Power distribution;		
Indication and warning systems;		
Interface with other systems.		
12.13 Ice and Rain Protection (ATA 30)	1	3
Ice formation, classification and detection;		
Anti-icing and De-icing systems: electrical, hot air and chemical;		
Rain repellent and removal;		
Probe and drain heating;		
Wiper system.		
12.14 Landing Gear (ATA 32)	2	3
Construction, shock absorbing;		
Extension and retraction systems: normal and emergency;		
Indications and warning;		
Wheels, Tyres, brakes;		
Steering;		
Air-ground sensing;		
Skids, floats.		
12.15 Lights (ATA 33)	2	3
External: navigation, landing, taxiing, ice;		
Internal: cabin, cockpit, cargo;		
Emergency.		

	LEVEL	
	A3 A4	B1.3 B1.4
12.16 Pneumatic/Vacuum (ATA 36) System lay-out; Sources: engine/APU, compressors, reservoirs, ground supply; Pressure control; Distribution; Indications and warnings; Interfaces with other systems.	1	3
12.17 Integrated Modular Avionics (ATA42) Functions that may be typically integrated in the Integrated Modular Avionic (IMA) modules are, among others: Bleed Management, Air Pressure Control, Air Ventilation and Control, Avionics and Cockpit Ventilation Control, Temperature Control, Air Traffic Communication, Avionics Communication Router, Electrical Load Management, Circuit Breaker Monitoring, Electrical System BITE, Fuel Management, Braking Control, Steering Control, Landing Gear Extension and Retraction, Tyre Pressure Indication, Oleo Pressure Indication, Brake Temperature Monitoring, etc. Core System; Network Components.	1	2
12.18 On Board Maintenance Systems (ATA45) Central maintenance computers; Data loading system; Electronic library system; Printing; Structure monitoring (damage tolerance monitoring).	1	2
12.19 Information Systems (ATA46) The units and components which furnish a means of storing, updating and retrieving digital information traditionally provided on paper, microfilm or microfiche. Includes units that are dedicated to the information storage and retrieval function such as the electronic library mass storage and controller. Does not include units or components installed for other uses and shared with other systems, such as flight deck printer or general use display. Typical examples include Air Traffic and Information Management Systems and Network Server Systems. Aircraft General Information System; Flight Deck Information System;	1	2

	LEVEL	
	A3	B1.3
	A4	B1.4
Maintenance Information System;		
Passenger Cabin Information System;		
Miscellaneous Information System.		

MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS

	LEVEL
	B2
13.1 Theory of Flight	
(a) <i>Aeroplane Aerodynamics and Flight Controls</i>	1
<p>Operation and effect of:</p> <ul style="list-style-type: none"> — roll control: ailerons and spoilers, — pitch control: elevators, stabilators, variable incidence stabilisers and canards, — yaw control, rudder limiters; <p>Control using elevons, ruddervators;</p> <p>High lift devices: slots, slats, flaps;</p> <p>Drag inducing devices: spoilers, lift dumpers, speed brakes;</p> <p>Operation and effect of trim tabs, servo tabs, control surface bias;</p>	
(b) <i>High Speed Flight</i>	1
<p>Speed of sound, subsonic flight, transonic flight, supersonic flight;</p> <p>Mach number, critical Mach number;</p>	
(c) <i>Rotary Wing Aerodynamics</i>	1
<p>Terminology;</p> <p>Operation and effect of cyclic, collective and anti-torque controls.</p>	
13.2 Structures — General Concepts	
(a) Fundamentals of structural systems;	1
(b) Zonal and station identification systems;	2
<p>Electrical bonding;</p> <p>Lightning strike protection provision.</p>	

	LEVEL
	B2
13.3 Autoflight (ATA 22) Fundamentals of automatic flight control including working principles and current terminology; Command signal processing; Modes of operation: roll, pitch and yaw channels; Yaw dampers; Stability Augmentation System in helicopters; Automatic trim control; Autopilot navigation aids interface; Autothrottle systems; Automatic Landing Systems: principles and categories, modes of operation, approach, glideslope, land, go-around, system monitors and failure conditions.	3
13.4 Communication/Navigation (ATA 23/34) Fundamentals of radio wave propagation, antennas, transmission lines, communication, receiver and transmitter; Working principles of following systems: <ul style="list-style-type: none"> — Very High Frequency (VHF) communication, — High Frequency (HF) communication, — Audio, — Emergency Locator Transmitters, — Cockpit Voice Recorder, — Very High Frequency omnidirectional range (VOR), — Automatic Direction Finding (ADF), — Instrument Landing System (ILS), — Microwave Landing System (MLS), — Flight Director systems, Distance Measuring Equipment (DME), — Very Low Frequency and hyperbolic navigation (VLF/Omega), — Doppler navigation, — Area navigation, RNAV systems, — Flight Management Systems, — Global Positioning System (GPS), Global Navigation Satellite Systems (GNSS), — Inertial Navigation System, — Air Traffic Control transponder, secondary surveillance radar, — Traffic Alert and Collision Avoidance System (TCAS), — Weather avoidance radar, — Radio altimeter, — ARINC communication and reporting. 	3

	LEVEL
	B2
13.5 Electrical Power (ATA 24)	3
Batteries Installation and Operation;	
DC power generation;	
AC power generation;	
Emergency power generation;	
Voltage regulation;	
Power distribution;	
Inverters, transformers, rectifiers;	
Circuit protection;	
External/Ground power.	
13.6 Equipment and Furnishings (ATA 25)	3
Electronic emergency equipment requirements;	
Cabin entertainment equipment.	
13.7 Flight Controls (ATA 27)	
(a) Primary controls: aileron, elevator, rudder, spoiler;	2
Trim control;	
Active load control;	
High lift devices;	
Lift dump, speed brakes;	
System operation: manual, hydraulic, pneumatic;	
Artificial feel, Yaw damper, Mach trim, rudder limiter, gust locks.	
Stall protection systems;	
(b) System operation: electrical, fly-by-wire.	3
13.8 Instruments (ATA 31)	3
Classification;	
Atmosphere;	
Terminology;	
Pressure measuring devices and systems;	
Pitot static systems;	
Altimeters;	
Vertical speed indicators;	
Airspeed indicators;	
Machmeters;	
Altitude reporting/alerting systems;	

	LEVEL
	B2
<p>Air data computers;</p> <p>Instrument pneumatic systems;</p> <p>Direct reading pressure and temperature gauges;</p> <p>Temperature indicating systems;</p> <p>Fuel quantity indicating systems;</p> <p>Gyroscopic principles;</p> <p>Artificial horizons;</p> <p>Slip indicators;</p> <p>Directional gyros;</p> <p>Ground Proximity Warning Systems;</p> <p>Compass systems;</p> <p>Flight Data Recording systems;</p> <p>Electronic Flight Instrument Systems;</p> <p>Instrument warning systems including master warning systems and centralised warning panels;</p> <p>Stall warning systems and angle of attack indicating systems;</p> <p>Vibration measurement and indication;</p> <p>Glass cockpit.</p>	
<p>13.9 Lights (ATA 33)</p> <p>External: navigation, landing, taxiing, ice;</p> <p>Internal: cabin, cockpit, cargo;</p> <p>Emergency.</p>	3
<p>13.10 On Board Maintenance Systems (ATA 45)</p> <p>Central maintenance computers;</p> <p>Data loading system;</p> <p>Electronic library system;</p> <p>Printing;</p> <p>Structure monitoring damage tolerance monitoring).</p>	3
<p>13.11 Air Conditioning and Cabin Pressurisation (ATA21)</p> <p>13.11.1. <i>Air supply</i></p> <p>Sources of air supply including engine bleed, APU and ground cart;</p>	2

	LEVEL
	B2
13.11.2. Air Conditioning	
Air conditioning systems;	2
Air cycle and vapour cycle machines;	3
Distribution systems;	1
Flow, temperature and humidity control system.	3
13.11.3. Pressurisation	3
Pressurisation systems;	
Control and indication including control and safety valves;	
Cabin pressure controllers.	
13.11.4. Safety and warning devices	3
Protection and warning devices.	
13.12 Fire Protection (ATA 26)	
(a) Fire and smoke detection and warning systems;	3
Fire extinguishing systems;	
System tests;	
(b) Portable fire extinguisher.	1
13.13 Fuel Systems (ATA 28)	
System lay-out;	1
Fuel tanks;	1
Supply systems;	1
Dumping, venting and draining;	1
Cross-feed and transfer;	2
Indications and warnings;	3
Refuelling and defuelling;	2
Longitudinal balance fuel systems.	3
13.14 Hydraulic Power (ATA 29)	
System lay-out;	1
Hydraulic fluids;	1
Hydraulic reservoirs and accumulators;	1
Pressure generation: electrical, mechanical, pneumatic;	3
Emergency pressure generation;	3

	LEVEL
	B2
Filters;	1
Pressure control;	3
Power distribution;	1
Indication and warning systems;	3
Interface with other systems.	3
13.15 Ice and Rain Protection (ATA 30)	
Ice formation, classification and detection;	2
Anti-icing systems: electrical, hot air and chemical;	2
De-icing systems: electrical, hot air, pneumatic, chemical;	3
Rain repellent;	1
Probe and drain heating;	3
Wiper Systems.	1
13.16 Landing Gear (ATA 32)	
Construction, shock absorbing;	1
Extension and retraction systems: normal and emergency;	3
Indications and warnings;	3
Wheels, brakes, antiskid and autobraking;	3
Tyres;	1
Steering;	3
Air-ground sensing.	3
13.17 Oxygen (ATA 35)	
System lay-out: cockpit, cabin;	3
Sources, storage, charging and distribution;	3
Supply regulation;	3
Indications and warnings.	3
13.18 Pneumatic/Vacuum (ATA 36)	
System lay-out;	2
Sources: engine/APU, compressors, reservoirs, ground supply;	2
Pressure control;	3
Distribution;	1

	LEVEL
	B2
Indications and warnings;	3
Interfaces with other systems.	3
13.19 Water/Waste (ATA 38)	2
Water system lay-out, supply, distribution, servicing and draining;	
Toilet system lay-out, flushing and servicing.	
13.20 Integrated Modular Avionics (ATA42)	3
Functions that may be typically integrated in the Integrated Modular Avionic (IMA) modules are, among others:	
Bleed Management, Air Pressure Control, Air Ventilation and Control, Avionics and Cockpit Ventilation Control, Temperature Control, Air Traffic Communication, Avionics Communication Router, Electrical Load Management, Circuit Breaker Monitoring, Electrical System BITE, Fuel Management, Braking Control, Steering Control, Landing Gear Extension and Retraction, Tyre Pressure Indication, Oleo Pressure Indication, Brake Temperature Monitoring, etc.;	
Core System;	
Network Components.	
13.21 Cabin Systems (ATA44)	3
The units and components which furnish a means of entertaining the passengers and providing communication within the aircraft (Cabin Intercommunication Data System) and between the aircraft cabin and ground stations (Cabin Network Service). Includes voice, data, music and video transmissions.	
The Cabin Intercommunication Data System provides an interface between cockpit/cabin crew and cabin systems. These systems support data exchange of the different related LRU's and they are typically operated via Flight Attendant Panels.	
The Cabin Network Service typically consists on a server, typically interfacing with, among others, the following systems:	
— Data/Radio Communication, In-Flight Entertainment System.	
The Cabin Network Service may host functions such as:	
— Access to pre-departure/departure reports,	
— E-mail/intranet/Internet access,	
— Passenger database;	
Cabin Core System;	
In-flight Entertainment System;	
External Communication System;	

	LEVEL
	B2
<p>Cabin Mass Memory System;</p> <p>Cabin Monitoring System;</p> <p>Miscellaneous Cabin System.</p> <p>13.22 Information Systems (ATA46)</p> <p>The units and components which furnish a means of storing, updating and retrieving digital information traditionally provided on paper, microfilm or microfiche. Includes units that are dedicated to the information storage and retrieval function such as the electronic library mass storage and controller. Does not include units or components installed for other uses and shared with other systems, such as flight deck printer or general use display.</p> <p>Typical examples include Air Traffic and Information Management Systems and Network Server Systems.</p> <p>Aircraft General Information System;</p> <p>Flight Deck Information System;</p> <p>Maintenance Information System;</p> <p>Passenger Cabin Information System;</p> <p>Miscellaneous Information System.</p>	3

MODULE 14. PROPULSION

	LEVEL
	B2
14.1 Turbine Engines	
(a) Constructional arrangement and operation of turbojet, turbofan, turboshaft and turbopropeller engines;	1
(b) Electronic Engine control and fuel metering systems (FADEC).	2
14.2 Engine Indicating Systems	2
Exhaust gas temperature/Interstage turbine temperature systems;	
Engine speed;	
Engine Thrust Indication: Engine Pressure Ratio, engine turbine discharge pressure or jet pipe pressure systems;	
Oil pressure and temperature;	
Fuel pressure, temperature and flow;	
Manifold pressure;	
Engine torque;	
Propeller speed.	
	LEVEL
	B2
14.3 Starting and Ignition Systems	2
Operation of engine start systems and components;	
Ignition systems and components;	
Maintenance safety requirements.	

MODULE 15. GAS TURBINE ENGINE

	LEVEL	
	A	B1
15.1 Fundamentals Potential energy, kinetic energy, Newton's laws of motion, Brayton cycle; The relationship between force, work, power, energy, velocity, acceleration; Constructional arrangement and operation of turbojet, turbofan, turboshaft, turboprop.	1	2
15.2 Engine Performance Gross thrust, net thrust, choked nozzle thrust, thrust distribution, resultant thrust, thrust horsepower, equivalent shaft horsepower, specific fuel consumption; Engine efficiencies; By-pass ratio and engine pressure ratio; Pressure, temperature and velocity of the gas flow; Engine ratings, static thrust, influence of speed, altitude and hot climate, flat rating, limitations.	—	2
15.3 Inlet Compressor inlet ducts Effects of various inlet configurations; Ice protection.	2	2
15.4 Compressors Axial and centrifugal types; Constructional features and operating principles and applications; Fan balancing; Operation: Causes and effects of compressor stall and surge; Methods of air flow control: bleed valves, variable inlet guide vanes, variable stator vanes, rotating stator blades;	1	2

	LEVEL	
	A	B1
Compressor ratio.		
15.5 Combustion Section	1	2
Constructional features and principles of operation.		
15.6 Turbine Section	2	2
Operation and characteristics of different turbine blade types;		
Blade to disk attachment;		
Nozzle guide vanes;		
Causes and effects of turbine blade stress and creep.		
15.7 Exhaust	1	2
Constructional features and principles of operation;		
Convergent, divergent and variable area nozzles;		
Engine noise reduction;		
Thrust reversers.		
15.8 Bearings and Seals	—	2
Constructional features and principles of operation.		
15.9 Lubricants and Fuels	1	2
Properties and specifications;		
Fuel additives;		
Safety precautions.		
15.10 Lubrication Systems	1	2
System operation/lay-out and components.		
15.11 Fuel Systems	1	2
Operation of engine control and fuel metering systems including electronic engine control (FADEC);		
Systems lay-out and components.		
15.12 Air Systems	1	2
Operation of engine air distribution and anti-ice control systems, including internal cooling, sealing and external air services.		
15.13 Starting and Ignition Systems	1	2
Operation of engine start systems and components;		
Ignition systems and components;		
Maintenance safety requirements.		

	LEVEL	
	A	B1
15.14 Engine Indication Systems Exhaust Gas Temperature/Interstage Turbine Temperature; Engine Thrust Indication: Engine Pressure Ratio, engine turbine discharge pressure or jet pipe pressure systems; Oil pressure and temperature; Fuel pressure and flow; Engine speed; Vibration measurement and indication; Torque; Power.	1	2
15.15 Power Augmentation Systems Operation and applications; Water injection, water methanol; Afterburner systems.	—	1
15.16 Turbo-prop Engines Gas coupled/free turbine and gear coupled turbines; Reduction gears; Integrated engine and propeller controls; Overspeed safety devices.	1	2
15.17 Turbo-shaft Engines Arrangements, drive systems, reduction gearing, couplings, control systems.	1	2
15.18 Auxiliary Power Units (APUs) Purpose, operation, protective systems.	1	2
15.19 Powerplant Installation Configuration of firewalls, cowlings, acoustic panels, engine mounts, anti-vibration mounts, hoses, pipes, feeders, connectors, wiring looms, control cables and rods, lifting points and drains.	1	2
15.20 Fire Protection Systems Operation of detection and extinguishing systems.	1	2

	LEVEL	
	A	B1
15.21 Engine Monitoring and Ground Operation Procedures for starting and ground run-up; Interpretation of engine power output and parameters; Trend (including oil analysis, vibration and boroscope) monitoring; Inspection of engine and components to criteria, tolerances and data specified by engine manufacturer; Compressor washing/cleaning; Foreign Object Damage.	1	3
15.22 Engine Storage and Preservation Preservation and depreservation for the engine and accessories/systems.	—	2

MODULE 16. PISTON ENGINE

	LEVEL		
	A	B1	B3
16.1 Fundamentals Mechanical, thermal and volumetric efficiencies; Operating principles — 2 stroke, 4 stroke, Otto and Diesel; Piston displacement and compression ratio; Engine configuration and firing order.	1	2	2
16.2 Engine Performance Power calculation and measurement; Factors affecting engine power; Mixtures/leaning, pre-ignition.	1	2	2
16.3 Engine Construction Crank case, crank shaft, cam shafts, sumps; Accessory gearbox; Cylinder and piston assemblies; Connecting rods, inlet and exhaust manifolds; Valve mechanisms;	1	2	2

	LEVEL		
	A	B1	B3
Propeller reduction gearboxes.			
16.4 Engine Fuel Systems			
16.4.1 <i>Carburettors</i>	1	2	2
Types, construction and principles of operation; Icing and heating.			
16.4.2 <i>Fuel injection systems</i>	1	2	2
Types, construction and principles of operation.			
16.4.3 <i>Electronic engine control</i>	1	2	2
Operation of engine control and fuel metering systems including electronic engine control (FADEC); Systems lay-out and components.			
16.5 Starting and Ignition Systems	1	2	2
Starting systems, pre-heat systems; Magnetos types, construction and principles of operation; Ignition harnesses, spark plugs; Low and high tension systems.			
16.6 Induction, Exhaust and Cooling Systems	1	2	2
Construction and operation of: induction systems including alternate air systems; Exhaust systems, engine cooling systems — air and liquid.			
16.7 Supercharging/Turbocharging	1	2	2
Principles and purpose of supercharging and its effects on engine parameters; Construction and operation of supercharging/turbocharging systems; System terminology; Control systems; System protection.			
16.8 Lubricants and Fuels	1	2	2
Properties and specifications; Fuel additives;			

	LEVEL		
	A	B1	B3
Safety precautions.			
16.9 Lubrication Systems	1	2	2
System operation/lay-out and components.			
16.10 Engine Indication Systems	1	2	2
Engine speed;			
Cylinder head temperature;			
Coolant temperature;			
Oil pressure and temperature;			
Exhaust Gas Temperature;			
Fuel pressure and flow;			
Manifold pressure.			
16.11 Powerplant Installation	1	2	2
Configuration of firewalls, cowlings, acoustic panels, engine mounts, anti-vibration mounts, hoses, pipes, feeders, connectors, wiring looms, control cables and rods, lifting points and drains.			
16.12 Engine Monitoring and Ground Operation	1	3	2
Procedures for starting and ground run-up;			
Interpretation of engine power output and parameters;			
Inspection of engine and components: criteria, tolerances, and data specified by engine manufacturer.			
16.13 Engine Storage and Preservation	—	2	1
Preservation and depreservation for the engine and accessories/systems.			

MODULE 17A. PROPELLER

Note: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 17B.

	LEVEL	
	A	B1
17.1 Fundamentals	1	2
Blade element theory;		

	LEVEL	
	A	B1
High/low blade angle, reverse angle, angle of attack, rotational speed; Propeller slip; Aerodynamic, centrifugal, and thrust forces; Torque; Relative airflow on blade angle of attack; Vibration and resonance.		
17.2 Propeller Construction	1	2
Construction methods and materials used in wooden, composite and metal propellers; Blade station, blade face, blade shank, blade back and hub assembly; Fixed pitch, controllable pitch, constant speeding propeller; Propeller/spinner installation.		
17.3 Propeller Pitch Control	1	2
Speed control and pitch change methods, mechanical and electrical/electronic; Feathering and reverse pitch; Overspeed protection.		
17.4 Propeller Synchronising	—	2
Synchronising and synchrophasing equipment.		
17.5 Propeller Ice Protection	1	2
Fluid and electrical de-icing equipment.		
17.6 Propeller Maintenance	1	3
Static and dynamic balancing; Blade tracking; Assessment of blade damage, erosion, corrosion, impact damage, delamination; Propeller treatment/repair schemes; Propeller engine running.		
17.7 Propeller Storage and Preservation	1	2
Propeller preservation and depreservation.		

MODULE 17B. PROPELLER

Note: The scope of this Module shall reflect the propeller technology of aeroplanes pertinent to the B3 category.

	LEVEL
	B3
17.1 Fundamentals	2
Blade element theory;	
High/low blade angle, reverse angle, angle of attack, rotational speed;	
Propeller slip;	
Aerodynamic, centrifugal, and thrust forces;	
Torque;	
Relative airflow on blade angle of attack;	
Vibration and resonance.	
17.2 Propeller Construction	2
Construction methods and material used in wooden, composite and metal propellers;	
Blade station, blade face, blade shank, blade back and hub assembly;	
Fixed pitch, controllable pitch, constant speeding propeller;	
Propeller/spinner installation.	
17.3 Propeller Pitch Control	2
Speed control and pitch change methods, mechanical and electrical/electronic;	
Feathering and reverse pitch;	
Overspeed protection.	
17.4 Propeller Synchronising	2
Synchronising and synchrophasing equipment.	
17.5 Propeller Ice Protection	2
Fluid and electrical de-icing equipment.	
17.6 Propeller Maintenance	2
Static and dynamic balancing;	
Blade tracking;	
Assessment of blade damage, erosion, corrosion, impact damage, delamination;	
Propeller treatment/repair schemes;	
Propeller engine running.	
17.7 Propeller Storage and Preservation	2
Propeller preservation and depreservation.	

IS 2.6.1.8 Experience requirements for extending a Part 2 Aircraft Maintenance Licence

The table below shows the experience requirements for adding a new category or subcategory to an existing Part 2 licence.

The experience shall be practical maintenance experience on operating aircraft in the subcategory relevant to the application.

The experience requirement will be reduced by 50 % if the applicant has completed an approved Part 3 course relevant to the subcategory.

To From	A1	A2	A3	A4	B1.1	B1.2	B1.3	B1.4	B2	B3
A1	—	6 months	6 months	6 months	2 years	6 months	2 years	1 year	2 years	6 months
A2	6 months	—	6 months	6 months	2 years	6 months	2 years	1 year	2 years	6 months
A3	6 months	6 months	—	6 months	2 years	1 year	2 years	6 months	2 years	1 year
A4	6 months	6 months	6 months	—	2 years	1 year	2 years	6 months	2 years	1 year
B1.1	None	6 months	6 months	6 months	—	6 months	6 months	6 months	1 year	6 months
B1.2	6 months	None	6 months	6 months	2 years	—	2 years	6 months	2 years	None
B1.3	6 months	6 months	None	6 months	6 months	6 months	—	6 months	1 year	6 months
B1.4	6 months	6 months	6 months	None	2 years	6 months	2 years	—	2 years	6 months
B2	6 months	6 months	6 months	6 months	1 year	1 year	1 year	1 year	—	1 year
B3	6 months	None	6 months	6 months	2 years	6 months	2 years	1 year	2 years	—

IS 2.6.1.11 Aircraft Type Training and Examination Standard

On the Job Training

1. General

Aircraft type training shall consist of theoretical training and examination, and, except for the category C ratings, skill test.

- (a) Theoretical training and examination shall comply with the following requirements:
 - (i) Shall be conducted by a maintenance training organisation appropriately approved in accordance with (Part 3) or, when conducted by other organisations, as directly approved by the Authority.
 - (ii) Shall comply with the standard described in paragraph 3.1 and 4 of this IS 2.6.1.11, except as permitted by the differences training described below.

-
- (iii) In the case of a category C person qualified by holding an academic degree as specified in point 2.6.1.8 (a)(5), the first relevant aircraft type theoretical training shall be at the category B1 or B2 level.
 - (iv) Shall have been started and completed within the 3 years preceding the application for a type rating endorsement.
 - (b) Skill test shall comply with the following requirements:
 - (i) Shall be conducted by a maintenance training organisation appropriately approved in accordance with (Part-3) or, when conducted by other organisations, as directly approved by the Authority.
 - (ii) Shall comply with the standard described in paragraph 3.2 and 4 of this IS 2.6.1.11, except as permitted by the differences training described below.
 - (iii) Shall include a representative cross section of maintenance activities relevant to the aircraft type.
 - (iv) Shall include demonstrations using equipment, components, simulators, other training devices or aircraft.
 - (v) Shall have been started and completed within the 3 years preceding the application for a type rating endorsement.
 - (c) Differences training
 - (i) Differences training is the training required in order to cover the differences between two different aircraft type ratings of the same manufacturer as determined by the Authority.
 - (ii) Differences training has to be defined on a case-to-case basis taking into account the requirements contained in this IS 2.6.1.11 in respect of both theoretical and practical elements of type rating training.
 - (iii) A type rating shall only be endorsed on a licence after differences training when the applicant also complies with one of the following conditions:
 - having already endorsed on the licence the aircraft type rating from which the differences are being identified, or
 - having completed the type training requirements for the aircraft from which the differences are being identified.

2. Aircraft type training levels

The three levels listed below define the objectives, the depth of training and the level of knowledge that the training is intended to achieve.

- **Level 1:** A brief overview of the airframe, systems and powerplant as outlined in the Systems Description Section of the Aircraft Maintenance

Manual/Instructions for Continued Airworthiness.

Course objectives: Upon completion of Level 1 training, the student will be able to:

- (a) provide a simple description of the whole subject, using common words and examples, using typical terms and identify safety precautions related to the airframe, its systems and powerplant;
- (b) identify aircraft manuals, maintenance practices important to the airframe, its systems and powerplant;
- (c) define the general layout of the aircraft's major systems;
- (d) define the general layout and characteristics of the powerplant;
- (e) identify special tooling and test equipment used with the aircraft.

— **Level 2:** *Basic system overview of controls, indicators, principal components, including their location and purpose, servicing and minor troubleshooting. General knowledge of the theoretical and practical aspects of the subject.*

Course objectives: In addition to the information contained in the Level 1 training, at the completion of Level 2 training, the student will be able to:

- (a) understand the theoretical fundamentals; apply knowledge in a practical manner using detailed procedures;
- (b) recall the safety precautions to be observed when working on or near the aircraft, powerplant and systems;
- (c) describe systems and aircraft handling particularly access, power availability and sources;
- (d) identify the locations of the principal components;
- (e) explain the normal functioning of each major system, including terminology and nomenclature;
- (f) perform the procedures for servicing associated with the aircraft for the following systems: Fuel, Power Plants, Hydraulics, Landing Gear, Water/Waste, and Oxygen;
- (g) demonstrate proficiency in use of crew reports and on-board reporting systems (minor troubleshooting) and determine aircraft airworthiness per the MEL/CDL;
- (h) demonstrate the use, interpretation and application of appropriate documentation including instructions for continued airworthiness, maintenance manual, illustrated parts catalogue, etc.

— **Level 3:** *Detailed description, operation, component location, removal/installation and bite and troubleshooting procedures to maintenance manual level.*

Course objectives: In addition to the information contained in Level 1 and Level 2 training, at the completion of Level 3 training, the student will be able to:

- (a) demonstrate a theoretical knowledge of aircraft systems and structures and interrelationships with other systems, provide a detailed description of the subject using theoretical fundamentals and specific examples and to interpret results from various sources and measurements and apply corrective action where appropriate;
- (b) perform system, powerplant, component and functional checks as specified in the aircraft maintenance manual;
- (c) demonstrate the use, interpret and apply appropriate documentation including structural repair manual, troubleshooting manual, etc.;
- (d) correlate information for the purpose of making decisions in respect of fault diagnosis and rectification to maintenance manual level;
- (e) describe procedures for replacement of components unique to aircraft type.

3. **Aircraft type training standard**

Although aircraft type training includes both theoretical and practical elements, courses can be approved for the theoretical element, the practical element or for a combination of both.

3.1. *Theoretical element*

(a) Objective:

On completion of a theoretical training course the student shall be able to demonstrate, to the levels identified in the IS 2.6.1.11 syllabus, the detailed theoretical knowledge of the aircraft's applicable systems, structure, operations, maintenance, repair, and troubleshooting according to approved maintenance data. The student shall be able to demonstrate the use of manuals and approved procedures, including the knowledge of relevant inspections and limitations.

(b) Level of training:

Training levels are those levels defined in point 2 above.

After the first type course for category C certifying staff all subsequent courses need only be to level 1.

During a level 3 theoretical training, level 1 and 2 training material may be used to teach the full scope of the chapter if required. However, during the training the majority of the course material and training time shall be at the higher level.

(c) Duration:

The theoretical training minimum tuition hours are contained in the following table:

Category	Hours
----------	-------

Aeroplanes with a maximum take-off mass above 30 000 kg:

B1.1	150
B1.2	120
B2	100
C	30

Aeroplanes with a maximum take-off mass equal or less than 30 000 kg and above 5 700 kg:

B1.1	120
B1.2	100
B2	100
C	25

Aeroplanes with a maximum take-off mass of 5 700 kg and below ⁽¹⁾

B1.1	80
B1.2	60
B2	60
C	15

Helicopters ⁽²⁾

B1.3	120
B1.4	100
B2	100
C	25

⁽¹⁾ For non-pressurised piston engine aeroplanes below 2 000 kg MTOM the minimum duration can be reduced by 50 %.

⁽²⁾ For helicopters in group 2 (as defined in point 2.6.1.11) the minimum duration can be reduced by 30 %.

For the purpose of the table above, a tuition hour means 60 minutes of teaching and exclude any breaks, examination, revision, preparation and aircraft visit.

These hours apply only to theoretical courses for complete aircraft/ engine combinations

according to the type rating as defined by the Authority.

(d) Justification of course duration:

Training courses carried out in a maintenance training organisation approved in accordance with (Part- 3) and courses directly approved by the Authority shall justify their hour duration and the coverage of the full syllabus by a training needs analysis based on:

- the design of the aircraft type, its maintenance needs and the types of operation,
- detailed analysis of applicable chapters — see contents table in point 3.1(e) below,
- detailed competency analysis showing that the objectives as stated in point 3.1(a) above are fully met.

Where the training needs analysis shows that more hours are needed, course lengths shall be longer than the minimum specified in the table.

Similarly, tuition hours of differences courses or other training course combinations (such as combined B1/B2 courses), and in cases of theoretical type training courses below the figures given in point 3.1(c) above, these shall be justified to the Authority by the training needs analysis as described above.

In addition, the course must describe and justify the following:

- The minimum attendance required to the trainee, in order to meet the objectives of the course.
- The maximum number of hours of training per day, taking into account pedagogical and human factors principles.

If the minimum attendance required is not met, the certificate of recognition shall not be issued. Additional training may be provided by the training organisation in order to meet the minimum attendance time.

(e) Content:

As a minimum, the elements in the Syllabus below that are specific to the aircraft type shall be covered. Additional elements introduced due to type variations, technological changes, etc. shall also be included.

The training syllabus shall be focused on mechanical and electrical aspects for B1 personnel, and electrical and avionic aspects for B2.

Chapters \ Level	Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics
	B1	C	B1	C	B1	C	B1	C	B2
Introduction module:									
05 Time limits/maintenance checks	1	1	1	1	1	1	1	1	1
06 Dimensions/Areas (MTOM, etc.)	1	1	1	1	1	1	1	1	1
07 Lifting and Shoring	1	1	1	1	1	1	1	1	1
08 Levelling and weighing	1	1	1	1	1	1	1	1	1

Chapters		Level		Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics	
Licence category.				B1	C	B1	C	B1	C	B1	C	B2	
09	Towing and taxiing			1	1	1	1	1	1	1	1	1	
10	Parking/mooring, Storing and Return to Service			1	1	1	1	1	1	1	1	1	
11	Placards and Markings			1	1	1	1	1	1	1	1	1	
12	Servicing			1	1	1	1	1	1	1	1	1	
20	Standard practices — only type particular			1	1	1	1	1	1	1	1	1	
Helicopters													
18	Vibration and Noise Analysis (Blade tracking)			—	—	—	—	3	1	3	1	—	
60	Standard Practices Rotor			—	—	—	—	3	1	3	1	—	
62	Rotors			—	—	—	—	3	1	3	1	1	
62A	Rotors — Monitoring and indicating			—	—	—	—	3	1	3	1	3	
63	Rotor Drives			—	—	—	—	3	1	3	1	1	
63A	Rotor Drives — Monitoring and indicating			—	—	—	—	3	1	3	1	3	
64	Tail Rotor			—	—	—	—	3	1	3	1	1	
64A	Tail rotor — Monitoring and indicating			—	—	—	—	3	1	3	1	3	
65	Tail Rotor Drive			—	—	—	—	3	1	3	1	1	
65A	Tail Rotor Drive — Monitoring and indicating			—	—	—	—	3	1	3	1	3	
66	Folding Blades/Pylon			—	—	—	—	3	1	3	1	—	
67	Rotors Flight Control			—	—	—	—	3	1	3	1	—	
53	Airframe Structure (Helicopter)			—	—	—	—	3	1	3	1	—	
25	Emergency Flotation Equipment			—	—	—	—	3	1	3	1	1	
Airframe structures													
51	Standard practices and structures (damage classification, assessment and repair)			3	1	3	1	—	—	—	—	1	
53	Fuselage			3	1	3	1	—	—	—	—	1	
54	Nacelles/Pylons			3	1	3	1	—	—	—	—	1	
55	Stabilisers			3	1	3	1	—	—	—	—	1	

Chapters	Level	Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics
		B1	C	B1	C	B1	C	B1	C	
56	Windows	3	1	3	1	—	—	—	—	1
57	Wings	3	1	3	1	—	—	—	—	1
27A	Flight Control Surfaces (All)	3	1	3	1	—	—	—	—	1
52	Doors	3	1	3	1	—	—	—	—	1
Zonal and Station Identification Systems.		1	1	1	1	1	1	1	1	1
Airframe systems:										
21	Air Conditioning	3	1	3	1	3	1	3	1	3
21A	Air Supply	3	1	3	1	1	3	3	1	2
21B	Pressurisation	3	1	3	1	3	1	3	1	3
21C	Safety and Warning Devices	3	1	3	1	3	1	3	1	3
22	Autoflight	2	1	2	1	2	1	2	1	3
23	Communications	2	1	2	1	2	1	2	1	3
24	Electrical Power	3	1	3	1	3	1	3	1	3
25	Equipment and Furnishings	3	1	3	1	3	1	3	1	1
25A	Electronic Equipment including emergency equipment	1	1	1	1	1	1	1	1	3
26	Fire Protection	3	1	3	1	3	1	3	1	3
27	Flight Controls	3	1	3	1	3	1	3	1	2
27A	Sys. Operation: Electrical/Fly-by-Wire	3	1	—	—	—	—	—	—	3
28	Fuel Systems	3	1	3	1	3	1	3	1	2
28A	Fuel Systems — Monitoring and indicating	3	1	3	1	3	1	3	1	3
29	Hydraulic Power	3	1	3	1	3	1	3	1	2
29A	Hydraulic Power — Monitoring and indicating	3	1	3	1	3	1	3	1	3
30	Ice and Rain Protection	3	1	3	1	3	1	3	1	3

Chapters		Level		Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics	
Licence category.				B1	C	B1	C	B1	C	B1	C	B2	
31	Indicating/Recording Systems			3	1	3	1	3	1	3	1	3	
31A	Instrument Systems			3	1	3	1	3	1	1	3	3	
32	Landing Gear			3	1	3	1	3	1	3	1	2	
32A	Landing Gear — Monitoring and indicating			3	1	3	1	3	1	3	1	3	
33	Lights			3	1	3	1	3	1	3	1	3	
34	Navigation			2	1	2	1	2	1	2	1	3	
35	Oxygen			3	1	3	1	—	—	—	—	2	
36	Pneumatic			3	1	3	1	3	1	3	1	2	
36A	Pneumatic — Monitoring and indicating			3	1	3	1	3	1	3	1	3	
37	Vacuum			3	1	3	1	3	1	3	1	2	
38	Water/Waste			3	1	3	1	—	—	—	—	2	
41	Water Ballast			3	1	3	1	—	—	—	—	1	
42	Integrated modular avionics			2	1	2	1	2	1	2	1	3	
44	Cabin Systems			2	1	2	1	2	1	2	1	3	
45	On-Board Maintenance System (or covered in 31)			3	1	3	1	3	1	—	—	3	
46	Information Systems			2	1	2	1	2	1	2	1	3	
50	Cargo and Accessory Compartments			3	1	3	1	3	1	3	1	1	
Turbine Engine													
70	Standard Practices — Engines,			3	1	—	—	3	1	—	—	1	
70A	constructional arrangement and operation (Installation Inlet, Compressors, Combustion Section, Turbine Section, Bearings and Seals, Lubrication Systems).			3	1	—	—	3	1	—	—	1	
70B	Engine Performance			3	1	—	—	3	1	—	—	1	
71	Powerplant			3	1	—	—	3	1	—	—	1	
72	Engine Turbine/Turbo Prop/Ducted Fan/Unducted fan			3	1	—	—	3	1	—	—	1	
73	Engine Fuel and Control			3	1	—	—	3	1	—	—	1	

Chapters	Level	Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics
		B1	C	B1	C	B1	C	B1	C	
75	Air	3	1	—	—	3	1	—	—	1
76	Engine controls	3	1	—	—	3	1	—	—	1
78	Exhaust	3	1	—	—	3	1	—	—	1
79	Oil	3	1	—	—	3	1	—	—	1
80	Starting	3	1	—	—	3	1	—	—	1
82	Water Injections	3	1	—	—	3	1	—	—	1
83	Accessory Gear Boxes	3	1	—	—	3	1	—	—	1
84	Propulsion Augmentation	3	1	—	—	3	1	—	—	1
73A	FADEC	3	1	—	—	3	1	—	—	3
74	Ignition	3	1	—	—	3	1	—	—	3
77	Engine Indicating Systems	3	1	—	—	3	1	—	—	3
49	Auxiliary Power Units (APUs)	3	1	—	—	—	—	—	—	2
Piston Engine										
70	Standard Practices — Engines	—	—	3	1	—	—	3	1	1
70A	Constructional arrangement and operation (Installation, Carburetors, Fuel injection systems, Induction, Exhaust and Cooling Systems, Supercharging/Turbocharging, Lubrication Systems).	—	—	3	1	—	—	3	1	1
70B	Engine Performance	—	—	3	1	—	—	3	1	1
71	Powerplant	—	—	3	1	—	—	3	1	1
73	Engine Fuel and Control	—	—	3	1	—	—	3	1	1
76	Engine Control	—	—	3	1	—	—	3	1	1
79	Oil	—	—	3	1	—	—	3	1	1
80	Starting	—	—	3	1	—	—	3	1	1
81	Turbines	—	—	3	1	—	—	3	1	1
82	Water Injections	—	—	3	1	—	—	3	1	1
83	Accessory Gear Boxes	—	—	3	1	—	—	3	1	1
84	Propulsion Augmentation	—	—	3	1	—	—	3	1	1

Chapters \ Level	Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics
	B1	C	B1	C	B1	C	B1	C	
73A FADEC	—	—	3	1	—	—	3	1	3
74 Ignition	—	—	3	1	—	—	3	1	3
77 Engine Indication Systems	—	—	3	1	—	—	3	1	3
Propellers									
60A Standard Practices — Propeller	3	1	3	1	—	—	—	—	1
61 Propellers/Propulsion	3	1	3	1	—	—	—	—	1
61A Propeller Construction	3	1	3	1	—	—	—	—	—
61B Propeller Pitch Control	3	1	3	1	—	—	—	—	—
61C Propeller Synchronising	3	1	3	1	—	—	—	—	1
61D Propeller Electronic control	2	1	2	1	—	—	—	—	3
61E Propeller Ice Protection	3	1	3	1	—	—	—	—	—
61F Propeller Maintenance	3	1	3	1	—	—	—	—	1

- (f) Multimedia Based Training (MBT) methods may be used to satisfy the theoretical training element either in the classroom or in a virtual controlled environment subject to the acceptance of the Authority approving the training course.

3.2. Skill test element

- (a) Objective:

The objective of skill test is to gain the required competence in performing safe maintenance, inspections and routine work according to the maintenance manual and other relevant instructions and tasks as appropriate for the type of aircraft, for example troubleshooting, repairs, adjustments, replacements, rigging and functional checks. It includes the awareness of the use of all technical literature and documentation for the aircraft, the use of specialist/special tooling and test equipment for performing removal and replacement of components and modules unique to type, including any on-wing maintenance activity.

- (b) Content:

At least 50 % of the crossed items in the table below, which are relevant to the particular aircraft type, shall be completed as part of the skill test.

Tasks crossed represent subjects that are important for skill test purposes to ensure

that the operation, function, installation and safety significance of key maintenance tasks is adequately addressed; particularly where these cannot be fully explained by theoretical training alone. Although the list details the minimum skill test subjects, other items may be added where applicable to the particular aircraft type.

Tasks to be completed shall be representative of the aircraft and systems both in complexity and in the technical input required to complete that task. While relatively simple tasks may be included, other more complex tasks shall also be incorporated and undertaken as appropriate to the aircraft type.

Glossary of the table: LOC: Location; FOT: Functional/Operational Test; SGH: Service and Ground Handling; R/I: Removal/Installation; MEL: Minimum Equipment List; TS: TroubleShooting.

Chapters		B1/B2	B1				B2					
		LOC	FOT	SGH	R=I	MEL	TS	FOT	SGH	R=I	MEL	TS
Introduction module:												
5	Time limits/main- tenance checks	X/X	—	—	—	—	—	—	—	—	—	—
6	Dimensions/Areas (MTOM, etc.)	X/X	—	—	—	—	—	—	—	—	—	—
7	Lifting and Shoring	X/X	—	—	—	—	—	—	—	—	—	—
8	Levelling and weighing	X/X	—	X	—	—	—	—	X	—	—	—
9	Towing and taxiing	X/X	—	X	—	—	—	—	X	—	—	—
10	Parking/mooring, Storing and Return to Service	X/X	—	X	—	—	—	—	X	—	—	—
11	Placards and Markings	X/X	—	—	—	—	—	—	—	—	—	—
12	Servicing	X/X	—	X	—	—	—	—	X	—	—	—
20	Standard practices — only type particular	X/X	—	X	—	—	—	—	X	—	—	—
Helicopters:												
18	Vibration and Noise Analysis (Blade tracking)	X/—	—	—	—	—	X	—	—	—	—	—
60	Standard Practices Rotor — only type specific	X/X	—	X	—	—	—	—	X	—	—	—
62	Rotors	X/—	—	X	X	—	X	—	—	—	—	—

Part 2 — Personnel Licensing

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R=I	MEL	TS	FOT	SGH	R=I	MEL	TS
62A Rotors — Monitoring and indicating	X/X	X	X	X	X	X	—	—	X	—	X
63 Rotor Drives	X/—	X	—	—	—	X	—	—	—	—	—
63A Rotor Drives — Monitoring and indicating	X/X	X	—	X	X	X	—	—	X	—	X
64 Tail Rotor	X/—	—	X	—	—	X	—	—	—	—	—
64A Tail rotor -Monitoring and indicating	X/X	X	—	X	X	X	—	—	X	—	X
65 Tail Rotor Drive	X/—	X	—	—	—	X	—	—	—	—	—
65A Tail Rotor Drive — Monitoring and indicating	X/X	X	—	X	X	X	—	—	X	—	X
66 Folding Blades/Pylon	X/—	X	X	—	—	X	—	—	—	—	—
67 Rotors Flight Control	X/—	X	X	—	X	X	—	—	—	—	—
53 Airframe Structure (Helicopter) Note: covered under Airframe structures											
25 Emergency Flotation Equipment	X/X	X	X	X	X	X	X	X	—	—	—
Airframe structures:											
51 Standard Practices and Structures (damage classification, assessment and repair)											
53 Fuselage	X/—	—	—	—	—	X	—	—	—	—	—
54 Nacelles/Pylons	X/—	—	—	—	—	—	—	—	—	—	—
55 Stabilisers	X/—	—	—	—	—	—	—	—	—	—	—

Chapters		B1/B2	B1					B2				
		LOC	FOT	SGH	R=I	MEL	TS	FOT	SGH	R=I	MEL	TS
56	Windows	X/—	—	—	—	—	X	—	—	—	—	—
57	Wings	X/—	—	—	—	—	—	—	—	—	—	—
27A	Flight Control Surfaces	X/—	—	—	—	—	X	—	—	—	—	—
52	Doors	X/X	X	X	—	—	—	—	X	—	—	—
Airframe systems:												
21	Air Conditioning	X/X	X	X	—	X	X	X	X	—	X	X
21A	Air Supply	X/X	X	—	—	—	—	X	—	—	—	—
21B	Pressurisation	X/X	X	—	—	X	X	X	—	—	X	X
21C	Safety and warning Devices	X/X	—	X	—	—	—	—	X	—	—	—
22	Autoflight	X/X	—	—	—	X	—	X	X	X	X	X
23	Communications	X/X	—	X	—	X	—	X	X	X	X	X
24	Electrical Power	X/X	X	X	X	X	X	X	X	X	X	X
25	Equipment and Furnishings	X/X	X	X	X	—	—	X	X	X	—	—
25A	Electronic Equipment including emergency equipment	X/X	X	X	X	—	—	X	X	X	—	—
26	Fire Protection	X/X	X	X	X	X	X	X	X	X	X	X
27	Flight Controls	X/X	X	X	X	X	X	X	—	—	—	—
27A	Sys. Operation: Electrical/Fly-by-Wire	X/X	X	X	X	X	—	X	—	X	—	X
28	Fuel Systems	X/X	X	X	X	X	X	X	X	—	X	—
28A	Fuel Systems — Monitoring and indicating	X/X	X	—	—	—	—	X	—	X	—	X
29	Hydraulic Power	X/X	X	X	X	X	X	X	X	—	X	—
29A	Hydraulic Power — Monitoring and indicating	X/X	X	—	X	X	X	X	—	X	X	X
30	Ice and Rain Protection	X/X	X	X	—	X	X	X	X	—	X	X

Part 2 — Personnel Licensing

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R=I	MEL	TS	FOT	SGH	R=I	MEL	TS
31 Indicating/Recording Systems	X/X	X	X	X	X	X	X	X	X	X	X
31A Instrument Systems	X/X	X	X	X	X	X	X	X	X	X	X
32 Landing Gear	X/X	X	X	X	X	X	X	X	X	X	—
32A Landing Gear — Monitoring and indicating	X/X	X	—	X	X	X	X	—	X	X	X
33 Lights	X/X	X	X	—	X	—	X	X	X	X	—
34 Navigation	X/X	—	X	—	X	—	X	X	X	X	X
35 Oxygen	X/—	X	X	X	—	—	X	X	—	—	—
36 Pneumatic	X/—	X	—	X	X	X	X	—	X	X	X
36A Pneumatic — Monitoring and indicating	X/X	X	X	X	X	X	X	X	X	X	X
37 Vacuum	X/—	X	—	X	X	X	—	—	—	—	—
38 Water/Waste	X/—	X	X	—	—	—	X	X	—	—	—
41 Water Ballast	X/—	—	—	—	—	—	—	—	—	—	—
42 Integrated modular avionics	X/X	—	—	—	—	—	X	X	X	X	X
44 Cabin Systems	X/X	—	—	—	—	—	X	X	X	X	X
45 On-Board Maintenance System (or covered in 31)	X/X	X	X	X	X	X	X	X	X	X	X
46 Information Systems	X/X	—	—	—	—	—	X	—	X	X	X
50 Cargo and Accessory Compartments	X/X	—	X	—	—	—	—	—	—	—	—
Turbine/Piston Engine Module:											
70 Standard Practices — Engines — only type particular	—	—	X	—	—	—	—	X	—	—	—

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R=I	MEL	TS	FOT	SGH	R=I	MEL	TS
70A Constructional arrangement and operation (Installation Inlet, Compressors, Combustion Section, Turbine Section, Bearings and Seals, Lubrication Systems)	X/X	—	—	—	—	—	—	—	—	—	—
Turbine engines:											
70B Engine Performance	—	—	—	—	—	X	—	—	—	—	—
71 Power Plant	X/—	X	X	—	—	—	—	X	—	—	—
72 Engine Turbine/Turbo Prop/Ducted Fan/ Unducted fan	X/—	—	—	—	—	—	—	—	—	—	—
73 Engine Fuel and Control	X/X	X	—	—	—	—	—	—	—	—	—
73A FADEC Systems	X/X	X	—	X	X	X	X	—	X	X	X
74 Ignition	X/X	X	—	—	—	—	X	—	—	—	—
75 Air	X/—	—	—	X	—	X	—	—	—	—	—
76 Engine Controls	X/—	X	—	—	—	X	—	—	—	—	—
77 Engine Indicating	X/X	X	—	—	X	X	X	—	—	X	X
78 Exhaust	X/—	X	—	—	X	—	—	—	—	—	—
79 Oil	X/—	—	X	X	—	—	—	—	—	—	—
80 Starting	X/—	X	—	—	X	X	—	—	—	—	—
82 Water Injection	X/—	X	—	—	—	—	—	—	—	—	—
83 Accessory Gearboxes	X/—	—	X	—	—	—	—	—	—	—	—
84 Propulsion Augmentation	X/—	X	—	—	—	—	—	—	—	—	—
Auxiliary Power Units (APUs):											
49 Auxiliary Power Units (APUs)	X/—	X	X	—	—	X	—	—	—	—	—

Part 2 — Personnel Licensing

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R=I	MEL	TS	FOT	SGH	R=I	MEL	TS
Piston Engines:											
70 Standard Practices — Engines — only type particular	—	—	X	—	—	—	—	X	—	—	—
70A Constructional arrangement and operation (Installation Inlet, Compressors, Combustion Section, Turbine Section, Bearings and Seals, Lubrication Systems)	X/X	—	—	—	—	—	—	—	—	—	—
70B Engine Performance	—	—	—	—	—	X	—	—	—	—	—
71 Power Plant	X/—	X	X	—	—	—	—	X	—	—	—
73 Engine Fuel and Control	X/X	X	—	—	—	—	—	—	—	—	—
73A FADEC Systems	X/X	X	—	X	X	X	X	X	X	X	X
74 Ignition	X/X	X	—	—	—	—	X	—	—	—	—
76 Engine Controls	X/—	X	—	—	—	X	—	—	—	—	—
77 Engine Indicating	X/X	X	—	—	X	X	X	—	—	X	X
78 Exhaust	X/—	X	—	—	X	X	—	—	—	—	—
79 Oil	X/—	—	X	X	—	—	—	—	—	—	—
80 Starting	X/—	X	—	—	X	X	—	—	—	—	—
81 Turbines	X/—	X	X	X	—	X	—	—	—	—	—
82 Water Injection	X/—	X	—	—	—	—	—	—	—	—	—
83 Accessory Gearboxes	X/—	—	X	X	—	—	—	—	—	—	—
84 Propulsion Augmentation	X/—	X	—	—	—	—	—	—	—	—	—
Propellers:											
60A Standard Practices — Propeller	—	—	—	X	—	—	—	—	—	—	—
61 Propellers/Propulsion	X/X	X	X	—	X	X	—	—	—	—	—

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R=I	MEL	TS	FOT	SGH	R=I	MEL	TS
61A Propeller Construction	X/X	—	X	—	—	—	—	—	—	—	—
61B Propeller Pitch Control	X/—	X	—	X	X	X	—	—	—	—	—
61C Propeller Synchro-nising	X/—	X	—	—	—	X	—	—	—	X	—
61D Propeller Electronic control	X/X	X	X	X	X	X	X	X	X	X	X
61E Propeller Ice Protection	X/—	X	—	X	X	X	—	—	—	—	—
61F Propeller Maintenance	X/X	X	X	X	X	X	X	X	X	X	X

4. Type training examination and skill test standard

4.1. Theoretical element examination standard

After the theoretical portion of the aircraft type training has been completed, a written examination shall be performed, which shall comply with the following:

- (a) Format of the examination is of the multi-choice type. Each multi-choice question shall have 3 alternative answers of which only one shall be the correct answer. The total time is based on the total number of questions and the time for answering is based upon a nominal average of 90 seconds per question.
- (b) The incorrect alternatives shall seem equally plausible to anyone ignorant of the subject. All the alternatives shall be clearly related to the question and of similar vocabulary, grammatical construction and length.
- (c) In numerical questions, the incorrect answers shall correspond to procedural errors such as the use of incorrect sense (+ versus -) or incorrect measurement units. They shall not be mere random numbers.
- (d) The level of examination for each chapter ⁽¹⁾ shall be the one defined in point 2 'Aircraft type training levels'. However, the use of a limited number of questions at a lower level is acceptable.
- (e) The examination shall be of the closed book type. No reference material is permitted. An exception will be made for the case of examining a B1 or B2 candidate's ability to interpret technical documents.
- (f) The number of questions shall be at least 1 question per hour of instruction. The number of questions for each chapter and level shall be proportionate to:

- the effective training hours spent teaching at that chapter and level,
- the learning objectives as given by the training needs analysis.

The Authority will assess the number and the level of the questions when approving the course.

- (7) The minimum examination pass mark is 75 %. When the type training examination is split in several examinations, each examination shall be passed with at least a 75 % mark. In order to be possible to achieve exactly a 75 % pass mark, the number of questions in the examination shall be a multiple of 4.
- (8) Penalty marking (negative points for failed questions) is not to be used.
- (9) End of module phase examinations cannot be used as part of the final examination unless they contain the correct number and level of questions required.

(1) For the purpose of this point 4, a 'chapter' means each one of the rows preceded by a number in the table contained in point 3.1(e).

4.2. *Skill test element skill test standard*

After the practical element of the aircraft type training has been completed, a skill test must be performed, which must comply with the following:

- (a) The skill test shall be performed by designated assessors appropriately qualified.
- (b) The skill test shall evaluate the knowledge and skills of the trainee.

5. **Type examination standard**

Type examination shall be conducted by training organisations appropriately approved under Part 3 by the Authority.

The examination shall be oral, written or skill test based, or a combination thereof and it shall comply with the following requirements:

- (a) Oral examination questions shall be open.
- (b) Written examination questions shall be essay type or multi-choice questions.
- (c) Skill test shall determine a person's competence to perform a task.
- (d) Examinations shall be on a sample of chapters ⁽²⁾ drawn from paragraph 3 type training/examination syllabus, at the indicated level.
- (e) The incorrect alternatives shall seem equally plausible to anyone ignorant of the subject. All of the alternatives shall be clearly related to the question and of similar vocabulary, grammatical construction and length.
- (f) In numerical questions, the incorrect answers shall correspond to procedural errors such as corrections applied in the wrong sense or incorrect unit conversions: they shall not be mere random numbers.
- (g) The examination shall ensure that the following objectives are met:

-
1. Properly discuss with confidence the aircraft and its systems.
 2. Ensure safe performance of maintenance, inspections and routine work according to the maintenance manual and other relevant instructions and tasks as appropriate for the type of aircraft, for example troubleshooting, repairs, adjustments, replacements, rigging and functional checks such as engine run, etc., if required.
 3. Correctly use all technical literature and documentation for the aircraft.
 4. Correctly use specialist/special tooling and test equipment, perform removal and replacement of components and modules unique to type, including any on-wing maintenance activity
- (h) The following conditions apply to the examination:
1. The maximum number of consecutive attempts is three. Further sets of three attempts are allowed with a 1 year waiting period between sets. A waiting period of 30 days is required after the first failed attempt within one set, and a waiting period of 60 days is required after the second failed attempt.

The applicant shall confirm in writing to the maintenance training organisation or the Authority to which they apply for an examination, the number and dates of attempts during the last year and the maintenance training organisation or the Authority where these attempts took place. The maintenance training organisation or the Authority is responsible for checking the number of attempts within the applicable timeframes.
 2. The type examination shall be passed and the required practical experience shall be completed within the 3 years preceding the application for the rating endorsement on the aircraft maintenance licence.
 3. Type examination shall be performed with at least one examiner present. The examiner(s) shall not have been involved in the applicant's training.
- (i) A written and signed report shall be made by the examiner(s) to explain why the candidate has passed or failed.

⁽²⁾ For the purpose of this point 5, a 'chapter' means each one of the rows preceded by a number in the tables contained in points 3.1(e) and 3.2(b).

6. **On the Job Training**

On the Job Training (OJT) shall be approved by the Authority who has issued the licence.

It shall be conducted at and under the control of maintenance organisation appropriately approved for the maintenance of the particular aircraft type and shall be assessed by designated assessors appropriately qualified.

It shall have been started and completed within the 3 years preceding the application for a type rating endorsement.

- (a) Objective:

The objective of OJT is to gain the required competence and experience in performing safe maintenance.

(b) Content:

OJT shall cover a cross section of tasks acceptable to the Authority. The OJT tasks to be completed shall be representative of the aircraft and systems both in complexity and in the technical input required to complete that task. While relatively simple tasks may be included, other more complex maintenance tasks shall also be incorporated and undertaken as appropriate to the aircraft type.

Each task shall be signed off by the student and countersigned by a designated supervisor. The tasks listed shall refer to an actual job card/work sheet, etc.

The final skill test of the completed OJT is mandatory and shall be performed by a designated assessor appropriately qualified.

The following data shall be addressed on the OJT worksheets/logbook:

1. Name of Trainee;
2. Date of Birth;
3. Approved Maintenance Organisation;
4. Location;
5. Name of supervisor(s) and assessor, (including licence number if applicable);
6. Date of task completion;
7. Description of task and job card/work order/tech log, etc.;
8. Aircraft type and aircraft registration;
9. Aircraft rating applied for.

In order to facilitate the verification by the Authority, demonstration of the OJT shall consist of (i) detailed worksheets/logbook and (ii) a compliance report demonstrating how the OJT meets the requirement of this Part.

IS 2.6.2.13 Basic Examination Standard

1. General

- 1.1. All basic examinations shall be carried out using the multi-choice question format and essay questions as specified below. The incorrect alternatives shall seem equally plausible to anyone ignorant of the subject. All of the alternatives shall be clearly related to the question and of similar vocabulary, grammatical construction and length. In numerical questions, the incorrect answers shall correspond to procedural errors such as corrections applied in the wrong sense or incorrect unit conversions: they shall not be mere random numbers.
- 1.2. Each multi-choice question shall have three alternative answers of which only one shall be the correct answer and the candidate shall be allowed a time per module which is based upon a nominal average of 75 seconds per question.
- 1.3. Each essay question requires the preparation of a written answer and the candidate shall be allowed 20 minutes to answer each such question.
- 1.4. Suitable essay questions shall be drafted and evaluated using the knowledge syllabus in IS 2.6.1.7 Modules 7A, 7B, 9A, 9B and 10.
- 1.5. Each question will have a model answer drafted for it, which will also include any known alternative answers that may be relevant for other subdivisions.
- 1.6. The model answer will also be broken down into a list of the important points known as Key Points.
- 1.7. The pass mark for each module and sub-module multi-choice part of the examination is 75 %.
- 1.8. The pass mark for each essay question is 75 % in that the candidates answer shall contain 75 % of the required key points addressed by the question and no significant error related to any required key point.
- 1.9. If either the multi-choice part only or the essay part only is failed, then it is only necessary to retake the multi-choice or essay part, as appropriate.
- 1.10. Penalty marking systems shall not be used to determine whether a candidate has passed.
- 1.11. A failed module may not be retaken for at least 90 days following the date of the failed module examination, except in the case of a maintenance training organisation approved in accordance with (Part 3) which conducts a course of retraining tailored to the failed subjects in the particular module when the failed module may be retaken after 30 days.
- 1.12. The time periods required by point 2.6.1.7 apply to each individual module examination, with the exception of those module examinations which were passed as

part of another category licence, where the licence has already been issued.

- 1.13. The maximum number of consecutive attempts for each module is three. Further sets of three attempts are allowed with a 1 year waiting period between sets.

The applicant shall confirm in writing to the approved maintenance training organisation or the Authority to which they apply for an examination, the number and dates of attempts during the last year and the organisation or the Authority where these attempts took place. The maintenance training organisation or the Authority is responsible for checking the number of attempts within the applicable timeframes.

2. Number of questions per module

2.1. MODULE 1 — MATHEMATICS

Category A: 16 multi-choice and 0 essay questions. Time allowed 20 minutes.

Category B1: 32 multi-choice and 0 essay questions. Time allowed 40 minutes.

Category B2: 32 multi-choice and 0 essay questions. Time allowed 40 minutes.

Category B3: 28 multi-choice and 0 essay questions. Time allowed 35 minutes.

2.2. MODULE 2 — PHYSICS

Category A: 32 multi-choice and 0 essay questions. Time allowed 40 minutes.

Category B1: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B2: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B3: 28 multi-choice and 0 essay questions. Time allowed 35 minutes.

2.3. MODULE 3 — ELECTRICAL FUNDAMENTALS

Category A: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B1: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B2: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B3: 24 multi-choice and 0 essay questions. Time allowed 30 minutes.

2.4. MODULE 4 — ELECTRONIC FUNDAMENTALS

Category B1: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B2: 40 multi-choice and 0 essay questions. Time allowed 50 minutes.

Category B3: 8 multi-choice and 0 essay questions. Time allowed 10 minutes.

2.5. MODULE 5 — DIGITAL TECHNIQUES/ELECTRONIC INSTRUMENT SYSTEMS

Category A: 16 multi-choice and 0 essay questions. Time allowed 20 minutes.

Category B1.1 and B1.3: 40 multi-choice and 0 essay questions. Time allowed 50 minutes.

Category B1.2 and B1.4: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B2: 72 multi-choice and 0 essay questions. Time allowed 90 minutes.

Category B3: 16 multi-choice and 0 essay questions. Time allowed 20 minutes.

Category A: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B1: 72 multi-choice and 0 essay questions. Time allowed 90 minutes.

Category B2: 60 multi-choice and 0 essay questions. Time allowed 75 minutes.

Category B3: 60 multi-choice and 0 essay questions. Time allowed 75 minutes.

2.7. MODULE 7A — MAINTENANCE PRACTICES

Category A: 72 multi-choice and 2 essay questions. Time allowed 90 minutes plus 40 minutes.

Category B1: 80 multi-choice and 2 essay questions. Time allowed 100 minutes plus 40 minutes.

Category B2: 60 multi-choice and 2 essay questions. Time allowed 75 minutes plus 40 minutes.

MODULE 7B — MAINTENANCE PRACTICES

Category B3: 60 multi-choice and 2 essay questions. Time allowed 75 minutes plus 40 minutes.

2.8. MODULE 8 — BASIC AERODYNAMICS

Category A: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B1: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B2: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B3: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

2.9. MODULE 9A — HUMAN FACTORS

Category A: 20 multi-choice and 1 essay question. Time allowed 25 minutes plus 20 minutes.

Category B1: 20 multi-choice and 1 essay question. Time allowed 25 minutes plus 20 minutes.

Category B2: 20 multi-choice and 1 essay question. Time allowed 25 minutes plus 20 minutes.

MODULE 9B — HUMAN FACTORS

Category B3: 16 multi-choice and 1 essay questions. Time allowed 20 minutes plus 20 minutes.

2.10. MODULE 10 — AVIATION LEGISLATION

Category A: 32 multi-choice and 1 essay question. Time allowed 40 minutes plus 20 minutes.

Category B1: 40 multi-choice and 1 essay question. Time allowed 50 minutes plus 20 minutes.

Category B2: 40 multi-choice and 1 essay question. Time allowed 50 minutes plus 20 minutes.

Category B3: 32 multi-choice and 1 essay questions. Time allowed 40 minutes plus 20 minutes.

2.11. MODULE 11A — TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Category A: 108 multi-choice and 0 essay questions. Time allowed 135 minutes.

Category B1: 140 multi-choice and 0 essay questions. Time allowed 175 minutes.

MODULE 11B — PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Category A: 72 multi-choice and 0 essay questions. Time allowed 90 minutes.

Category B1: 100 multi-choice and 0 essay questions. Time allowed 125 minutes.

MODULE 11C — PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Category B3: 60 multi-choice and 0 essay questions. Time allowed 75 minutes.

2.12. MODULE 12 — HELICOPTER AERODYNAMICS, STRUCTURES AND SYSTEMS:

Category A: 100 multi-choice and 0 essay questions. Time allowed 125 minutes.

Category B1: 128 multi-choice and 0 essay questions. Time allowed 160 minutes.

2.13. MODULE 13 — AIRCRAFT AERODYNAMICS, STRUCTURES
AND SYSTEMS

Category B2: 180 multi-choice and 0 essay questions. Time allowed
225 minutes. Questions and time allowed may be split into two examinations
as appropriate.

2.14. MODULE 14 — PROPULSION

Category B2: 24 multi-choice and 0 essay questions. Time allowed
30 minutes.

2.15. MODULE 15 — GAS TURBINE ENGINE

Category A: 60 multi-choice and 0 essay questions. Time allowed
75 minutes.

Category B1: 92 multi-choice and 0 essay questions. Time allowed
115 minutes.

2.16. MODULE 16 — PISTON ENGINE

Category A: 52 multi-choice and 0 essay questions. Time allowed
65 minutes.

Category B1: 72 multi-choice and 0 essay questions. Time allowed
90 minutes.

Category B3: 68 multi-choice and 0 essay questions. Time allowed
85 minutes.

2.17. MODULE 17A — PROPELLER

Category A: 20 multi-choice and 0 essay questions. Time allowed
25 minutes.

Category B1: 32 multi-choice and 0 essay questions. Time allowed
40 minutes.

MODULE 17B — PROPELLER

Category B3: 28 multi-choice and 0 essay questions. Time allowed
35 minutes.

IS 2.8.3.2 SKILL TEST FOR THE FLIGHT DISPATCHER LICENCE

- (a) The skill test for the flight dispatcher licence shall test the applicant's knowledge and performance in at least the following areas of operation:
- (1) Flight planning/dispatch release, including the applicants' knowledge and performance of the following tasks:
 - (i) Regulatory requirements;
 - (ii) Meteorology;
 - (iii) Weather observations, analysis, and forecasts;
 - (iv) Weather related hazards;
 - (v) Aircraft systems, performance, and limitations;
 - (vi) Navigation and aircraft navigation systems;
 - (vii) Practical dispatch applications;
 - (viii) Manuals, handbooks and other written guidance.
 - (2) Preflight, takeoff, and departure, including the applicant's knowledge and performance of the following tasks:
 - (i) Air traffic control procedures;
 - (ii) Aerodrome, crew, and company procedures.
 - (3) In-flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Routing, re-routing, and flight plan filing;
 - (ii) En route communication procedures and requirements.
 - (4) Arrival, approach, and landing procedures, including the applicant's knowledge and performance of the following task:
 - (i) Air traffic control and air navigation procedures.
 - (5) Post flight procedures, including the applicant's knowledge and performance of the following tasks:
 - (i) Communication procedures and requirements;
 - (ii) Trip records.
 - (6) Abnormal and emergency procedures, including the applicant's knowledge and performance of the following task:
 - (i) Abnormal and emergency procedures.

IS 2.10.1.4 SENIOR PARACHUTE RIGGER LICENCE SKILL TEST

- (a) The skill test for the senior parachute rigger licence shall test the applicant's knowledge and performance in at least the following areas of operation:
- (1) Certification, including the applicants' knowledge and performance of the following tasks:
 - (i) Senior Parachute Rigger experience requirements.
 - (ii) Senior Parachute Rigger test requirements.
 - (2) Privileges, limitations and operating rules, including the applicants' knowledge and performance of the following tasks:
 - (i) Senior Parachute Rigger privileges.
 - (ii) Required facilities and equipment.
 - (iii) Performance standards.
 - (iv) Recordation.
 - (v) Manufacturer's packing instructions.
 - (vi) Repair classifications.
 - (vii) Alterations.
 - (viii) Equipment requirements for intentional parachute jumping.
 - (ix) TSO 23c requirements.
 - (3) Packing parachutes, including the applicants' knowledge and performance of the following tasks:
 - (i) Packing round parachute.
 - (ii) Packing ram-air parachute.
 - (iii) Packing piggy-back container parachute.
 - (4) Parachute operation and care, including the applicants' knowledge and performance of the following tasks:
 - (i) Parachute storage.
 - (ii) Parachute drying and airing.
 - (iii) Parachute assembly inspection.
 - (iv) Cleaning parachute canopies.
 - (v) Parachute harness adjustment.
 - (vi) Pin-type static line requirements.
 - (vii) Break cord static line requirements.
 - (viii) Cleaning parachute harness/container.

- (5) Parachute construction details, including the applicants' knowledge and performance of the following tasks:
 - (i) Seam construction defects.
 - (ii) Webbing joint construction.
 - (iii) Parachute construction knots.
 - (iv) Fabric construction.
 - (v) French fell seam construction.
 - (vi) Technical standard order TSO-C23c.
 - (vii) Technical standard order TSO-C23d.
 - (viii) Fastener tapes.
 - (ix) Finger loop construction.
 - (x) Radial seam construction.
- (6) Parachute repair, including the applicants' knowledge and performance of the following tasks:
 - (i) Single canopy repair.
 - (ii) Replacement of lower control line (ram-air canopy).
 - (iii) Application of non-destructive test method TS-108.
 - (iv) Line attachment loop replacement.
 - (v) Removal and installation of grommets.
 - (vi) Sewing machine operation.
 - (vii) Cascade line replacement.
 - (viii) Nicopress sleeve installation.
 - (ix) Replacement of V-tab (butterfly tab).
 - (x) Replacement of continuous suspension line.
 - (xi) Suspension line replacement in ram-air canopy.
 - (xii) Container patching.
 - (xiii) Ram-air canopy repair limitations.
 - (xiv) Ram-air canopy repair adjacent to a seam.

IS 2.10.1.5 MASTER PARACHUTE RIGGER LICENCE SKILL TEST

- (a) The skill test for the master parachute rigger licence shall test the applicant's knowledge and performance in at least the following areas of operation:
- (1) Certification, including the applicants' knowledge and performance of the following tasks:
 - (i) Master Parachute Rigger experience requirements.
 - (ii) Master Parachute Rigger test requirements.
 - (2) Privileges, limitations and operating rules, including the applicants' knowledge and performance of the following tasks:
 - (i) Master Parachute Rigger privileges.
 - (ii) Required facilities and equipment.
 - (iii) Performance standards.
 - (iv) Recordation.
 - (v) Manufacturer's packing instructions.
 - (vi) Repair classifications.
 - (vii) Alterations.
 - (viii) Equipment requirements for intentional parachute jumping.
 - (ix) TSO 23c requirements.
 - (3) Packing parachutes, including the applicants' knowledge and performance of the following tasks:
 - (i) Packing round parachute.
 - (ii) Packing ram-air parachute.
 - (iii) Packing piggy-back container parachute.
 - (4) Parachute operation and care, including the applicants' knowledge and performance of the following tasks:
 - (i) Parachute storage.
 - (ii) Parachute drying and airing.
 - (iii) Parachute assembly inspection.
 - (iv) Cleaning parachute canopies.
 - (v) Parachute harness adjustment.
 - (vi) Pin-type static line requirements.
 - (vii) Break cord static line requirements.
 - (viii) Cleaning parachute harness/container.

- (5) Parachute construction details, including the applicants' knowledge and performance of the following tasks:
 - (i) Seam construction defects.
 - (ii) Webbing joint construction.
 - (iii) Parachute construction knots.
 - (iv) Fabric construction.
 - (v) French fell seam construction.
 - (vi) Technical standard order TSO-C23c.
 - (vii) Technical standard order TSO-C23d.
 - (viii) Fastener tapes.
 - (ix) Finger loop construction.
 - (x) Radial seam construction.
- (6) Parachute repair, including the applicants' knowledge and performance of the following tasks:
 - (i) Single canopy repair.
 - (ii) Replacement of lower control line (ram-air canopy).
 - (iii) Application of non-destructive test method TS-108.
 - (iv) Line attachment loop replacement.
 - (v) Removal and installation of grommets.
 - (vi) Sewing machine operation.
 - (vii) Cascade line replacement.
 - (viii) Nicopress sleeve installation.
 - (ix) Replacement of V-tab (butterfly tab).
 - (x) Replacement of continuous suspension line.
 - (xi) Suspension line replacement in ram-air canopy.
 - (xii) Container patching.
 - (xiii) Ram-air canopy repair limitations.
 - (xiv) Ram-air canopy repair adjacent to a seam.
- (7) Parachute Alterations, including the applicants' knowledge and performance of the following tasks:
 - (i) Alteration data approval.
 - (ii) Install an automatic activation device.
 - (iii) Fabrication binding corners.

- (iv) Altering riser connections.
- (v) Bridle cord alteration.
- (vi) Threading friction adapter.
- (vii) D- or V-ring alteration.
- (viii) Conversion of ripcord deployment to hand deployed pilot chute.
- (ix) Fabricate a canopy deployment bag.
- (x) Convert throw-out pilot chute from rear of leg position to the bottom of container position.

IS 2.10.1.6 TYPE RATINGS—PARACHUTE RIGGER LICENCE SKILL TEST

- (a) The skill test for ratings or added ratings to a parachute rigger licence shall test the applicant's knowledge and performance in at least the following areas of operation applicable to the rating sought, including the applicant's knowledge and performance of the following:
 - (1) Additional rating requirements.
 - (2) Packing seat-type parachute.
 - (3) Packing back-type parachute (excluding piggy-back).
 - (4) Packing chest-type parachute.
 - (5) Packing lap-type parachute.

IS 2.11.1.3 CIVIL AVIATION MEDICAL EXAMINERS

- (a) Basic training in aviation medicine for CAMEs shall include at least the following:
 - (1) Basic training in aviation medicine;
 - (2) Physics of atmosphere and space;
 - (3) Basic aeronautical knowledge;
 - (4) Aviation Physiology;
 - (5) Ophthalmology;
 - (6) Otorinolaryngology;
 - (7) Cardiology and general medicine;
 - (8) Neurology;
 - (9) Psychiatry in aviation medicine;
 - (10) Psychology;
 - (11) Dentistry;

- (12) Accidents, Escape and Survival;
 - (13) Legislation, rules and regulations;
 - (14) Air evacuation;
 - (15) Medicine and flying.
- (b) Advanced training in aviation medicine for CAMEs shall include the following:
- (1) Pilot working environment;
 - (2) Aerospace physiology;
 - (3) Ophthalmology;
 - (4) Otorinolaryngology;
 - (5) Cardiology and general medicine;
 - (6) Neurology/Psychiatry;
 - (7) Human factors in aviation;
 - (8) Tropical medicine;
 - (9) Hygiene;
 - (10) Space medicine.

IS 2.11.1.8 MEDICAL CERTIFICATE

- (a) The following details shall appear on the medical certificate in the Roman alphabet:
- (1) Name of State;
 - (2) Medical certificate number;
 - (3) Name of holder in full;
 - (4) Date of birth of holder;
 - (5) Address of holder;
 - (6) Nationality of holder;
 - (7) Signature of holder;
 - (8) Medical certificate Class 1, 2, or 3;
 - (9) Date of Issue;
 - (10) Validity;
 - (11) Limitations;
 - (12) Issuing Authority;
 - (13) Signature of Issuing Authority;
 - (14) Examiner/CAA staff signature;
 - (15) Examiner/CAA staff name (printed);
 - (16) Examiner's authorisation number;
 - (17) Date of Examination and State of Examination.