

**CIVIL AVIATION AUTHORITY PAKISTAN**

**AIR NAVIGATION ORDER**

**NO: 90.0002**

**ISSUE: ONE**

**CAA TECHNICAL EXAMINATIONS  
(PERSONNEL LICENCES, RATINGS & CERTIFICATES)**

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**1. AUTHORITY**

- 1.1. This Air Navigation Order (ANO) is issued by the Director General Civil Aviation Authority, under the powers vested in him under Rule 4, Rule 36 and 360 of the Civil Aviation Rules, 1994 (CARs 94).

**2. SCOPE**

- 2.1. This Air Navigation Order covers the rules governing the CAA Technical Examinations of Aircraft Pilots, Flight Engineers, Aircraft Maintenance Engineers, Air Traffic Controllers, Glider Pilots, Balloon pilots, Pilots of Uncertified Flying Machines, Cabin Attendants, Flight Radio Telephony Operator Licence, Flight Operations Officers Licence, Ratings, Type Endorsements, Validation Certificates, Conduct of Examinations etc.

**3. EFFECTIVE DATE**

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

**4. INTRODUCTION**

- 4.1. An applicant for the grant of a Licence, Certificate or a rating shall pass theory Examinations in accordance with the syllabus and procedures provided for, in this ANO.
- 4.2. The general policy in relation to theory Examinations is outlined in this ANO; and related information in the context of Licences, Certificates, Ratings etc., is specified in the relevant ANOs of Licences, Certificates and Ratings.
- 4.3. All applications concerning CAA Technical Examinations for Licences, Certificates and Ratings shall be addressed to the Personnel Licensing Office (PLO).
- 4.4. This ANO covers the under mentioned Examinations:
- 4.4.1. Private Pilot Licence : Aeroplane & Helicopter
  - 4.4.2. Commercial Pilot Licence : Aeroplane & Helicopter
  - 4.4.3. Airline Transport Pilot Licence : Aeroplane & Helicopter
  - 4.4.4. Instrument Rating :Aeroplane & Helicopter
  - 4.4.5. Flight Instructors Rating
  - 4.4.6. Flight Engineer Licence

- 4.4.7. Flight Operations Officers Licence.
- 4.4.8. Aircraft Maintenance Engineer Licence
- 4.4.9. Air Traffic Controller Licence / Ratings
- 4.4.10. Approved Person Examination
- 4.4.11. Glider Pilot Licence
- 4.4.12. Balloon Pilot Licence
- 4.4.13. Agriculture Rating
- 4.4.14. Flight Radio Telephony Operator Licence
- 4.4.15. Cabin Attendant Competency Certificate
- 4.4.16. Recreational Competency Certificate
- 4.4.17. Validation Certificate

5. **DETAILS OF TECHNICAL EXAMINATION**

- 5.1. The Appendices to this ANO contain the under mentioned details:
  - 5.1.1. Syllabus of Examinations
  - 5.1.2. Break Down of the Papers
  - 5.1.3. Approximate questions likely to be set from each module of the Syllabus.
  - 5.1.4. Recommended Study material/Books.
  - 5.1.5. The details of Technical Examinations are attached at the Appendices as under:
    - 5.1.5.1. Appendix A - Private Pilot Licence (A & H)
    - 5.1.5.2. Appendix B - Commercial Pilot Licence (A & H)
    - 5.1.5.3. Appendix C - Instrument Rating
    - 5.1.5.4. Appendix D - Airline Transport Pilot Licence (A & H)
    - 5.1.5.5. Appendix E - Instructor Rating
    - 5.1.5.6. Appendix F - Balloon Pilot Licence
    - 5.1.5.7. Appendix G - Recreational Competency Certificate
    - 5.1.5.8. Appendix H - Flight Engineer Licence
    - 5.1.5.9. Appendix J - Glider Pilot Licence
    - 5.1.5.10. Appendix K - Flight Operations Officer Licence
    - 5.1.5.11. Appendix L - Air Traffic Controller Licence

- 5.1.5.12. Appendix M - Flight Radio Telephony Operator Licence
- 5.1.5.13. Appendix N - Aircraft Maintenance Engineer Licence
- 5.1.5.14. Appendix O - Cabin Attendant - Competency Certificates
- 5.1.5.15. Appendix P - Validation Certificate.
- 5.1.5.16. Appendix Q - Type Rating.
- 5.1.5.17. Appendix R - Approved Person Examination.
- 5.1.5.18. Appendix S - Agriculture Rating
- 5.1.5.19. Appendix T - Oral Evaluation
- 5.1.5.20. Appendix U - Fee Schedule
- 5.1.5.21. Appendix V - Application Form for appearing in the Examination
- 5.1.5.22. Appendix W - Post Examination Report

6. **GENERAL CONSIDERATIONS - PAPER SETTING**

- 6.1. All question papers shall be confined to the Syllabus recommended by ICAO ANNEX 1; and related Documents as provided for in this Air Navigation Order.
- 6.2. Unless otherwise specified, all question papers for initial issue of Licence shall carry maximum of 100 questions. At least 10 questions will be subjective type with answers limited to few lines. The question papers for revalidation / renewals shall have maximum of 50 questions.
- 6.3. Each candidate sitting in the Examination shall be given a different question paper.
- 6.4. Unless otherwise specified, time for each paper shall be 3 Hours
- 6.5. Pass marks for PPL, Glider Pilot, Balloon pilot and Recreational Competency Certificate, (Uncertified flying machines), shall be 60%.
- 6.6. Pass marks for CPL, IR, ATPL, AME, ATCL, FOO, Approved Person, /, Validation Certificate, Radio Telephony Licences, Flight Engineer Licence, Flight Instructor Rating, Type rating, Re-validation Examination shall be 70%.
- 6.7. The rough work done during the Examination shall be a part of the answer sheet and shall be submitted along with the answer sheet.

7. **DETAILS OF PAPERS**

7.1. Papers

7.1.1.	PPL	PPL-1 & PPL-H
7.1.2.	PPL Re-validation	PPL-R
7.1.3.	CPL	CPL-1 CPL-2, CPL-H
7.1.4.	CPL Re-validation	CPL-R
7.1.5.	IR	IR-1
7.1.6.	IR Re- validation	IR-R
7.1.7.	ATPL	ATPL-1, ATPL 2 ATPL-H
7.1.8.	ATPL Re-validation	ATPL-R
7.1.9.	AFI	AFI-1
7.1.10.	FI Rating	FI-1
7.1.11.	BPL	BPL-1
7.1.12.	BPL Re-validation	BPL-R
7.1.13.	FEL	FE-1
7.1.14.	FEL Revalidation	FE-R
7.1.15.	FOO	FOO-1, FOO-2 & FOO-3
7.1.16.	FOO Revalidation	FOO-R
7.1.17.	AME (Basic)	AME-1, AME-2, AME-3, AME-4, AME-5
7.1.18.	AME(A/C Ratings)	Conducted by Airworthiness Dte.
7.1.19.	ATCL	ATC-1, ATC-2
7.1.20.	ATC Ratings	ATCR-1, ATCR-2, ATCR-3, ATCR-4, ATCR-5, ATCR-6.
7.1.21.	ATC Re-validation	ATC-R
7.1.22.	GPL	GPL-1
7.1.23.	GPL Revalidation	GPL-2
7.1.24.	Cabin Competency	Cabin-1, Cabin-2
7.1.25.	Cabin Competency Revalidation	Cabin- R
7.1.26.	Validation Certificate	VAL-1
7.1.27.	RCC Issue	RCC-1

- 7.1.28. RCC Revalidation           RCC-R
- 7.1.29. Agriculture Rating       AG-1
- 7.1.30. FRTO                       FRTO-1
- 7.1.31. Type Technical           TT-1
- 7.1.32. Approved Person        AP-1

- 7.2. A candidate for PPL-H shall pass paper PPL-1 and PPL-H both.
- 7.3. A candidate for CPL-H shall pass paper CPL-1, CPL-2 and CPL-H.
- 7.4. A candidate for ATPL-H shall pass paper ATPL-1, ATPL-2 & ATPL-H.

8. **EXAMINATION VALIDITY CREDIT**

- 8.1. All pass credit of examination paper shall be in accordance with the period as specified in this ANO.

9. **EXAMINATION CENTRES**

- 9.1. The Examinations shall be conducted at Karachi, Lahore, Multan, Peshawar and Rawalpindi according to the published schedule. Examinations at any other center shall only be conducted if reasonable numbers of candidates are available. At Karachi, the Examinations shall be held at the Licensing Office; and at other centers, at the Airport Terminals, under the administrative arrangements of Zonal/Airport Managers.

10. **APPLICATION PROCEDURE**

- 10.1. A candidate shall submit the application form, CAAF-608 at Appendix 'V', for the required theory Examination, he shall:
  - 10.1.1. Ensure that he meets the eligibility requirements for the required Licence, Certificate and Rating as given in the relevant ANO;
- 10.2. The application shall be recommended for each attempt by the authorized person of the aviation-training center. Qualified personnel of the Armed Forces, foreign equivalent Licence / Certificate holders and candidates for renewal, revalidation, type endorsements are exempted from this requirement
- 10.3. The application shall be submitted so as to reach the Licensing Office not later than 07 days before the scheduled date. A late fee shall be charged if application is submitted late. Authority is not responsible for postal delays.

11. **EXAMINATION SCHEDULE**

- 11.1. The Personnel Licencing Office shall issue a six monthly Examination schedule. In case of a gazetted holiday, the scheduled papers shall be held on the next working day.

12. **CHANGE OF CENTRE/DATE**

- 12.1. A candidate may in writing apply for the change of a center or date of Examination. Such a request is to reach at least 2 days before the commencement of the Examination. In such cases, fee deposited earlier will be adjusted towards next Examination, provided it is taken within next 12 weeks.

13. **AIRCRAFT TYPE TECHNICAL EXAMINATION**

- 13.1. The Aircraft Type Technical Examination (TT-1) for aircraft below AUW 5700 kgs. Shall be conducted by the Licensing Office or delegated to the Authorized Person/Aviation Training Center. The details of the examination are given in Appendix 'Q' to this ANO.
- 13.2. Results and answer sheets properly marked and signed are to be forwarded submitted to Licensing Office, for the licensing action, along with other required documents.
- 13.3. Where an applicant has completed an approved course with an approved Aviation Training Center for aircraft AUW 5700 kgs. and above, such course shall be accepted in lieu of technical Examination(TT-2). The Aviation training center shall provide the schedule for the conduct of such Examination to the Licensing Office which shall monitor, the conduct of such Examinations, without any prior notice; and scrutinize, if required, some sample answer sheets.
- 13.4. The validity of the aircraft type technical Examination shall be 06 months.

14. **ORAL EVALUATION BY AUTHORIZED PERSON**

- 14.1. Oral Examinations for issue or revalidation of lapsed Licenses and Ratings shall be conducted by an Authorized Person with a valid Authorization issued by the Licensing Office. The Examiner conducting the oral test shall complete the prescribed form and submit it to the licensing Office.

15. **CONDUCT OF SPECIAL EXAMINATION**

- 15.1. Special Examination for issue / revalidation may be permitted, out of the published schedule, for applicants from abroad.

16. **EXAMINATION FEE SHEDULE**

- 16.1. The Examination fee shall be as given at Appendix "U".
- 16.2. Fee is to be deposited in the National Bank of Pakistan Terminal-1 Branch, Quaid-e-Azam International Airport, Karachi on the form available in the Bank or Revenue Offices of Airport Managers as per fee scheduled published in Licensing Circular.
- 16.3. **Late Fee**
- 16.3.1. Late fee shall be charged on applications received within last 7 days of Examination.

17. **EXEMPTIONS**

- 17.1. Exemptions from theory Examinations may be granted to qualified and experienced personnel from the Pakistan Armed Forces, in general aviation subjects only, with acceptable documentary evidence of having met the requirements. The Licensing Office may verify, if required, from the concerned service / department.

18. **EXAMINATION RESULTS**

- 18.1. All candidates shall be informed of the result and the marks obtained in the Examination.
- 18.2. Except for the approved person of an aviation training centre, the result shall be disclosed to another person subject to a written authorization from the individual whose result is being disclosed.
- 18.3. The result will be dispatched to the candidate through the school recommending his application; or directly, where there was no school involved, within 03 weeks of the Examination.

19. **CANDIDATES REQUEST FOR RE-CHECKING**

- 19.1. A candidate may request for re-checking of answer sheets. An Examiner shall review the paper to determine if there was an error. The burden of proof, to prove that answer was correct, lies with the candidate. In case of a doubt, the case may be referred to the General Manager Licensing for necessary decision.
- 19.2. If a question is found inappropriate for the paper under re-check, the question shall be removed; and the score shall be given out of the remaining questions.
- 19.3. A candidate may apply for re-checking of his papers within two months of the dispatch of results, on payment of the prescribed fee.

20. **DISPOSITION OF ANSWER SHEETS OF EXAMINATIONS**

- 20.1. The answer sheets shall be retained by the Licensing Office for a period of one year.
- 20.2. The answer sheets shall be incinerated after one year in the presence of General Manager Licensing.

21. **ADDITIONAL ATTEMPTS**

- 21.1. A person who fails in an Examination required for the issuance of a Licence / Certificate or Rating, is eligible to make additional attempts not before a period of 04 weeks has elapsed for the paper attempted.

22. **CONDUCT OF CAA TECHNICAL EXAMINATION**

- 22.1. Except as authorized by an invigilator, a candidate appearing in the examinations shall follow the under mentioned instructions:

- 22.1.1. All candidates to be seated 10 minutes prior to the scheduled time for the commencement of paper. In case of late arrival, a candidate may be allowed to sit in the examination but no extra time will be given.
- 22.1.2. Copying or removing from any portion of the text of the paper is not permitted.
- 22.1.3. Handing over or accepting from any person a copy of the text of the paper is not permitted.
- 22.1.4. Giving help to or accepting help from any person during the Examination is not permitted.
- 22.1.5. Completing all or any portion of the Examination on behalf of any other person is not permitted.
- 22.1.6. Using any outside aid or written material during the Examination is not permitted.
- 22.2. Prior to the commencement of the Examination, the examiner shall loudly read out the under mentioned instructions to all the candidates:
  - 22.2.1. All candidates are required to be in possession of identification acceptable to the Examiner. The ID can be either of the following - original national Identity Card (NIC), passport, driving Licence, domicile or any other document identifying him to the satisfaction of the examiner.
  - 22.2.2. Candidates are to write the TEST NUMBER and REF NUMBER clearly on the answer sheet.
  - 22.2.3. Candidates who do not have their applications recommended by the Authorized Person, if applicable, are not allowed to sit in the Examination.
  - 22.2.4. Any candidate, who does not meet the eligibility criteria for the Examination and sits in Examination, shall lose the chance; and his result will not be declared.
  - 22.2.5. All answers are to be written on the answer sheet provided for. Nothing is to be written or marked on the question paper. A separate blank sheet is provided for working/rough work, which **is part of the answer sheet** and is to be attached along with the answer sheet.
  - 22.2.6. Exchange of computers, calculators and stationary etc. is not to be permitted during examination.

- 22.2.7. A candidate who uses a hand-held calculator during an Examination shall use a hand-held calculator which has the Memory-clear feature; and the clear memory shall be demonstrated to the invigilator.
- 22.2.8. A candidate who uses a hand-held electronic computer during an Examination shall use a hand-held electronic computer provided it has been specifically designed for flight operations, its memory can be cleared before and after the Examination in the presence of the invigilator; and its memory bank instructions and the process is simple enough to be completed with minimum distraction.
- 22.2.9. Candidates are not permitted to consult the computer user manuals or instructions during Examination.
- 22.2.10. If a candidate is found talking, using unfair means, causing disturbance or not abiding by any of these instructions, the candidate shall be disqualified from the paper apart from other disciplinary action.
- 22.2.11. A candidate is not permitted to bring any reference book or any written text into the Examination center.
- 22.2.12. All candidates to have their own necessary drawing and calculating Instruments, e.g., dividers, compasses protectors and navigational computer etc.
- 22.2.13. A PPL candidate is allowed to use only manual navigational computer and non-programmable calculators.
- 22.2.14. Undesirables conduct during the Examination shall culminate in appropriate disciplinary action as deemed fit by the Licensing Authority.
- 22.2.15. Smoking and visiting toilets during the paper is not permitted. All candidates wishing to smoke or visit toilet can leave now for 5 mins.

23. **USE OF ELECTRONIC DEVICES**

- 23.1. List of Approved Electronic Computers is as follows: -
  - 23.1.1. Jeppesen Sanderson PROSTAR/ AVSTAR/ TECHSTAR
  - 23.1.2. ASA CX 1a PATHFINDER
  - 23.1.3. CESSNA SKY/COMP
  - 23.1.4. NAV-gem
  - 23.1.5. SPORTY's E6B
  - 23.1.6. Any FAA/JAA Approved Computer

24. **Duties and Responsibilities of Invigilator/s**

- 24.1. The duties and responsibilities of the invigilators shall be as under:
- 24.1.1. He shall compile a list of candidates who have applied to appear in different examination, different examination centers at the scheduled dates.
  - 24.1.2. He shall co-ordinate with the Airport manager in advance to ensure that the arrangements for the examination to be held are satisfactory.
  - 24.1.3. He shall carry the required number of question papers and other examination material in sufficient quantity and shall keep in his personal custody ensuring its secrecy and security.
  - 24.1.4. He shall arrive at the examination center 30 minutes prior to the schedule time.
  - 24.1.5. He shall satisfy himself with the identity of each candidate through an acceptable identification.
  - 24.1.6. He shall read out the examination instructions loudly 5 minutes before the schedule time of commencement of examination. Then he is to permit the candidates to leave the room, if required, for 5 minutes for drinking water, smoking or visiting toilet.
  - 24.1.7. He shall get the signatures on the nominal roll and attest himself on the answer sheet provided.
  - 24.1.8. He shall announce 'start the paper now' and begin timing. He shall also announce the passage of each hour, last thirty minutes and last five minutes. After the examination time has elapsed, he shall announce 'Stop the paper now' and begin collecting back the question paper, answer sheets and other examination material.
  - 24.1.9. He shall complete the post examination report including any unusual occurrence; and shall get the report counter signed by the Air port Manager.

25. **POST EXAMINATION REPORT**

- 25.1. A post examination report shall be prepared in accordance with Appendix W.

26. **ORAL EVALUATION FOR KNOWLEDGE ASSESSMENT**

- 26.1. If a candidate is suspected of using unfair means during an Examination, an oral evaluation may be carried out of his knowledge by a team constituted by the GM Licensing. If the Oral evaluation report is not satisfactory, the team may recommend to the Licensing Authority to bar the candidate from appearing in the paper for a defined period of time.

27. **QUATERLY SUMMARY REPORT – EXAMINATION**

27.1. The result statistics and performance of the aviation training centers shall be analyzed and a summary report shall be published on quarterly basis.

28. **TRANSITION TO NEW SYSTEM**

28.1. The existing Question Papers shall be replaced in a phased manner In accordance with this ANO.

28.2. All candidates, who have appeared in examinations prior to the issuance of this ANO, shall be treated in accordance with the old system.

29. **RESPONSIBILITIES OF THE ZONAL MANAGERS / AIRPORT MANAGERS FOR CONDUCT CAA TECHNICAL EXAMINATION**

29.1. The Zonal Manager / Airport Managers shall have the overall responsibility for conducting the Technical Examinations at stations other than HQ CAA. He shall be responsible for providing the following assistance:

29.1.1. Making a suitable arrangement for the seating of the candidates as per the list issued by the Licensing Office. The examination place should preferably be an open hall / space, which is free from outside disturbances, is well lit, is airy or air-conditioned.

29.1.2. Detailing an officer for the assistance of the Examiners.

29.1.3. Detailing a qasid who will also act as the Water Bearer.

29.1.4. Providing sufficient stationary for conduct of the examination.

29.1.5. Arranging for a pick up and drop of the examiners detailed.

30. **ICAO GUIDANCE DOCUMENTS**

30.1. ICAO Documents which can provide useful guidance on both Licensing and Examinations are enumerated below:

30.1.1. Annex 1 – Personnel Licensing

30.1.2. Annex 11- Air Traffic Services

30.1.3. DOC 4444 – Air Traffic Services

30.1.4. DOC 7192 (Training Manual)

30.1.5. Part A-3 Composite Ground subjects

30.1.6. Part B-1 Instrument Flight Training

30.1.7. Part B-5 (Vol 1) Commercial Course details

30.1.8. Part B-5 (Vol 11) Instructor briefing sheets

- 30.1.9. Part C-3 Training of Flight Engineers
  - 30.1.10. Part D-3 Training of Flight Operation Officers
  - 30.1.11. Part D-1 Training of Maintenance Engineers
  - 30.1.12. Part E-1 Training of Cabin Attendants Training
  - 30.1.13. DOC 9401 Manual of Aviation Training Centres
31. This ANO cancels all previous instructions contained in the PLM regarding conduct of CAA Examination

Date 23<sup>rd</sup> October, 2001

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

**APPENDIX "A"**  
**TO ANO 90.0002**

**PRIVATE PILOT LICENCE**

1. **PRIVATE PILOT LICENCE EXAMINATION**

1.1. **Type of Papers**

- 1.1.1. PPL- Aeroplanes Examination : PPL-1
- 1.1.2. PPL - Helicopters Examination : PPL-1, PPL-H
- 1.1.3. PPL - Revalidation Examination : PPL (R)

1.2. **Paper PPL-1:**

- 1.2.1. Questions : 100
- 1.2.2. Pass percentage : 60%
- 1.2.3. Time allowed : 03:00 hours
- 1.2.4. Validity : 12 months

1.3. **Question Setting**

- 1.3.1. Aircraft General Knowledge : 16 %
- 1.3.2. Airframe & Engines : 16 %
- 1.3.3. Flight Rules and Airlaw : 16 %
- 1.3.4. Navigation : 16%
- 1.3.5. Aircraft Operations : 08%
- 1.3.6. Performance and Flight Planning : 08%
- 1.3.7. Meteorology : 16%
- 1.3.8. Human Performance & Limitations : 04%.

1.4. **Syllabus**

1.4.1. **Air Law**

- 1.4.1.1. Rules and regulations relevant to the holder of a Private Pilot Licence – Aeroplane; rules of the air; appropriate air traffic services practices and procedures;

1.4.2. **Aircraft General Knowledge**

- 1.4.2.1. Principles of operation of Aeroplane power plants, systems and instruments;

- 1.4.2.2. Operating limitations of Aeroplanes and power plants; relevant operational information from the flight manual or other appropriate document;
- 1.4.3. **Flight performance and planning**
  - 1.4.3.1. Effects of loading and mass distribution on flight characteristics; mass and balance calculations;
  - 1.4.3.2. Use and practical application of take-off, landing and other performance data;
  - 1.4.3.3. Pre-flight and en-route flight planning appropriate to private operations under VFR; preparation and filing of air traffic services flight plan; appropriate air traffic services procedures; position reporting procedures; altimeter setting procedures; operations in areas of high density traffic;
- 1.4.4. **Human performance and limitations**
  - 1.4.4.1. Human performance and limitations relevant to the private pilot – Aeroplane;
- 1.4.5. **Meteorology**
  - 1.4.5.1. Application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;
- 1.4.6. **Navigation**
  - 1.4.6.1. Practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts.
- 1.4.7. **Operational procedures**
  - 1.4.7.1. Use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
  - 1.4.7.2. Appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards.
- 1.4.8. **Principles of flight**
  - 1.4.8.1. Principles of flight relating to Aeroplanes.
- 1.4.9. **Radiotelephony**
  - 1.4.9.1. Radiotelephony procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure.

1.5. **Recommended Study Material**

- 1.5.1. Trevor Thom Series for PPL
- 1.5.2. Private Pilots Manual, Jepessen Sanderson Inc.
- 1.5.3. From the Ground up, Canadian
- 1.5.4. CAR's 94,AIP
- 1.5.5. E-6B :Slide rule Computer

1.6. **PPL-H**

- 1.6.1. Questions : 40
- 1.6.2. Pass percentage : 60%
- 1.6.3. Time allowed : 01 hours
- 1.6.4. Validity : 12 months

1.7. **Question Setting**

- 1.7.1. Principles of Flight related to helicopters only

1.8. **Syllabus**

- 1.8.1. Air Law.
  - 1.8.1.1. Rules and regulations relevant to the holder of a Private Pilot's Licence-Helicopter; rules of the air appropriate air traffic services practices and procedures;
- 1.8.2. **Aircraft General Knowledge**
  - 1.8.2.1. principles of operation of helicopter power plants, transmission (power-trains), systems and instruments;
  - 1.8.2.2. operating limitations of helicopters and power plants; relevant operational information from the flight manual;
- 1.8.3. **Flight performance and planning**
  - 1.8.3.1. effects of loading and mass distribution on flight characteristics mass and balance calculations Human performance and limitations;
  - 1.8.3.2. use and practical application of take-off, landing and other performance data;

- 1.8.3.3. 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;
- 1.8.4. **Human performance and limitations**
  - 1.8.4.1. Human performance and limitations relevant to the Private Pilot's Licence-Helicopter;
- 1.8.5. **Meteorology**
  - 1.8.5.1. Application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;
- 1.8.6. **Navigation.**
  - 1.8.6.1. Practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;
- 1.8.7. **Operational procedures**
  - 1.8.7.1. Use of aeronautical documentation such as **AIP**, **NOTAM**, aeronautical codes and abbreviations;
  - 1.8.7.2. Appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather and wake turbulence; settling with power, ground resonance, roll-over and other operating hazards;
- 1.8.8. **Principles of flight,**
  - 1.8.8.1. Principles of flight relating to helicopters; and
- 1.8.9. **Radiotelephony**
  - 1.8.9.1. Procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure.
- 1.9. **PPL-R:** For revalidation of Private Pilot Licence a candidate shall pass written Examination of Paper PPL-R.
  - 1.9.1. Questions : 50
  - 1.9.2. Pass percentage : 60%
  - 1.9.3. Time allowed : 01:30 hours
  - 1.9.4. Validity : 12 months
- 1.10. **Question Setting**

1.10.1. Flight Rules and Air law.

1.11. **Recommended Study material**

1.11.1. CAR's 94

1.11.2. AIP

1.12. A candidate whose licence is lapsed for more than 6 months and not more than 24 months is required to pass PPL-R. If licence lapse period is 24 months or more, he should appear paper PPL-1 for Aeroplane and PPL-H for Helicopter Licence.

**Note: 1.** *CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates /training institutions may select any suitable publication.*

**Note: 2.** *The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner*

**APPENDIX “B”**  
**TO ANO 90.0002**

**COMMERCIAL PILOT LICENCE**

**1. COMMERCIAL PILOT LICENCE EXAMINATION**

**1.1. Type of Papers**

1.1.1.	CPL - Examination	:	CPL-1
1.1.2.	CPL - Examination	:	CPL-2
1.1.3.	CPL - Helicopters Examination	:	CPL-H
1.1.4.	CPL - Revalidation Examination	:	CPL-R

1.2. **CPL-1:** For the issue of Commercial Pilot Licence, a candidate shall pass written Examination of Paper CPL-1 & CPL-2. A paper CPL-1 shall have :

1.2.1.	Questions	:	100
1.2.2.	Pass percentage	:	70%
1.2.3.	Time allowed	:	03:00 hours
1.2.4.	Validity	:	24 months

**1.3. Question Setting**

1.3.1.	Aircraft Operational Perf & Flt Planning	:	25%
1.3.2.	Met-II	:	25 %
1.3.3.	Flight Rules & Air Law	:	25 %
1.3.4.	Human Performance & Limitations	:	12%
1.3.5.	Operational procedures	:	13 %

**1.4. CPL-2**

1.4.1.	Questions	:	100
1.4.2.	Pass percentage	:	70%
1.4.3.	Time allowed	:	03:00 hours
1.4.4.	Validity	:	24 months

**1.5. Question Setting**

1.5.1.	Navigation	:	25%
1.5.2.	Met-1	:	25%
1.5.3.	Theory of Flight	:	30%
1.5.4.	Aircraft General Knowledge (Engines)	:	20%

1.6. **SYLLABUS**

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a Commercial Pilot Licence – Aeroplane, in at least the following subjects:-

1.6.1. **Air Law**

1.6.1.1. Rules and regulation relevant to the holder of a Commercial Pilot Licence – Aeroplane; rules of the air; appropriate air traffic services practices and procedures;

1.6.2. **Aircraft General Knowledge**

1.6.2.1. Principles of operation and functioning of Aeroplane power plants, systems and instruments;

1.6.2.2. Operating limitations of appropriate Aeroplane and power plants; relevant operational information from the flight manual or other appropriate documents;

1.6.2.3. Use and serviceability check of equipment and systems of appropriate Aeroplanes;

1.6.2.4. Maintenance procedures for airframes, systems and power plants of appropriate Aeroplanes.

1.6.3. **Flight performance and planning**

1.6.3.1. Effects of loading and mass distribution on Aeroplane handling, flight characteristics and performance; mass and balance calculations.

1.6.3.2. Use and practical application of take off, landing and other performance data;

1.6.3.3. Pre-flight and en-route flight planning appropriate to operations under VFR; preparation and filing of air traffic services flight plans; appropriate air traffic services procedures; altimeter setting procedures.

1.6.4. **Human performance and limitations.**

1.6.4.1. Human performance and limitations relevant to the Commercial Pilot – Aeroplane.

1.6.5. **Meteorology**

1.6.5.1. Interpretation and application of aeronautical meteorological reports, charts and forecasts; use of, and procedures for obtaining, meteorological information, pre-flight and in-flight; altimetry.

- 1.6.5.2. Aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems, the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take off, en-route and landing conditions; hazardous weather avoidance;
- 1.6.6. **Navigation**
  - 1.6.6.1. Air navigation, including the use of aeronautical charts instruments and navigation aids; and understanding of the principles and characteristics of appropriate navigation systems; operation of airborne equipment.
- 1.6.7. **Operational Procedures**
  - 1.6.7.1. Use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations.
  - 1.6.7.2. Appropriate precautionary and emergency procedure.
  - 1.6.7.3. Operational procedures for carriage of freight; potential hazards associated with dangerous goods.
  - 1.6.7.4. Requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from Aeroplanes.
- 1.6.8. **Principles of flight**
  - 1.6.8.1. Principles of flight relating to Aeroplanes.
- 1.6.9. **Radiotelephony**
  - 1.6.9.1. Radiotelephony procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure.
- 1.7. **Recommended Study Material: CPL-1**
  - 1.7.1. Trevor Thom Series for CPL
  - 1.7.2. Ground Studies for PilotS by Taylor & Palmer :UK
  - 1.7.3. Aviation Weather Handbook
  - 1.7.4. Aerodynamics for Naval Aviators
  - 1.7.5. CAR's 94, AIP(Pak)
  - 1.7.6. FAA CPL Questionnaire :Gleim /ASA
  - 1.7.7. E-6B :Slide rule and Approved Electronic Computers.

1.8. **Recommended Study Material CPL-2**

- 1.8.1. Trevor Thom Series for CPL
- 1.8.2. Ground Studies for Pilot by Taylor & Palmer :UK
- 1.8.3. Aviation Weather Handbook
- 1.8.4. Civil Aviation Rules 1994 (CARs 94)
- 1.8.5. AIP Pak
- 1.8.6. FAA CPL Questionnaire :Gleim /ASA
- 1.8.7. E-6B : Slide rule and Approved Electronic Computers

1.9. **CPL-H**

- 1.9.1. Questions : 50
- 1.9.2. Pass percentage : 70%
- 1.9.3. Time allowed : 01:30 hours
- 1.9.4. Validity : 24 months

1.10. **Question Setting**

- 1.10.1. Principles of Flight related to helicopters only.

1.11. **Syllabus**

An applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a Commercial Pilot Licence – Helicopter, in at least the following subjects:

1.11.1. **Air Law**

Rules and regulations relevant to the holder of a Commercial Pilot Licence – Helicopter; rules of the air; appropriate air traffic services practices and procedures;

1.11.2. **Aircraft General knowledge**

- 1.11.2.1. Principle of operation and functioning of helicopter power-plants, transmission (power-trains), systems and instruments;
- 1.11.2.2. Operating limitations of appropriate helicopters and power-plants; relevant operational information from the flight manual or other appropriate document;
- 1.11.2.3. Use and serviceability checks of equipment and systems of appropriate helicopters;
- 1.11.2.4. Maintenance procedures for airframes, systems and power-plants of appropriate helicopter;

1.11.3. **Flight performance and planning**

- 1.11.3.1. effects of loading and mass distribution, including external loads, on helicopter handling, flight characteristics and performance; mass and balance calculations;
- 1.11.3.2. use and practical application of take-off, landing and other performance data;
- 1.11.3.3. pre-flight and en-route flight planning appropriate to operations under **VFR**; preparation and filing of air traffic services flight plans; appropriate air traffic services procedures; altimeter setting procedures;

1.11.4. **Human performance and limitations**

Human performance and limitations relevant to the commercial pilot licence – helicopter.

1.11.5. **Meteorology**

- 1.11.5.1. Interpretation and application of aeronautical meteorological reports, charts and forecasts; use of, and procedures for obtaining, meteorological information, pre-flight and in-flight; altimetry;
- 1.11.5.2. aeronautical meteorology; climatology of relevant areas in respect of the elements having an effects upon aviation; the movement of pressure systems, the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions; hazardous weather avoidance;

1.11.6. **Navigation**

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

1.11.7. **Operational procedures**

- 1.11.7.1. use of aeronautical documentation such as CARS, ANOs, AIP, NOTAM, Aeronautical Codes, Circulars, PLM and Abbreviations;
- 1.11.7.2. appropriate precautionary and emergency procedures; settling with power, ground resonance, roll-over and other operating hazards;
- 1.11.7.3. operational procedures for carriage of freight; potential hazards associated with dangerous goods;
- 1.11.7.4. requirements and practices for safety briefing to

passengers, including precautions to be observed when embarking and disembarking from helicopter;

1.11.8. **Principles of flight**

Principles of flight relating to helicopters;

1.11.9. **Radiotelephony**

Radiotelephony procedures and phraseology as applied to **VFR** operations; action to be taken in case of communication failure.

1.12. **Recommended Study Material**

1.12.1. AP 3456A Vol 'A' :Principles of Flight

1.12.2. FAA CPL Questionnaire :Gleim / ASA

1.12.3. Basic Helicopter Handbook :ASA AC61-13B

1.12.4. Safety in and around Helicopter :AC-91-32 USA

1.13. **CPL-R:** For revalidation of lapsed Commercial Pilot Licence a candidate shall pass written Examination of Paper CPL-R. Paper CPL-R shall have:-

1.13.1. Questions : 50

1.13.2. Pass percentage : 70%

1.13.3. Time allowed : 01:30 hours

1.13.4. Validity : 24 months

1.14. **Question Setting**

1.14.1. Flight Rules and Airlaw

1.15. **Recommended Study Material**

1.15.1. Civil Aviation Rules 1994 (CARs 94)

1.15.2. Aeronautical Information Publication (AIP)

1.15.3. ICAO Annexe-2 (Rules of the Air)

**Note: 1.** CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates /training institutions may select any suitable publication.

**Note: 2.** The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner

**APPENDIX "C"**  
**TO ANO 90.0002**

**INSTRUMENT RATING**

1. **INSTRUMENT RATING EXAMINATION IR-1**

1.1. **Type of Papers**

1.1.1. Instrument Rating Examination : IR-1

1.1.2. Instrument Rating Revalidation Examination : IR-R

1.2. **IR-1:** For the issue of Instrument Rating a candidate shall pass written Examination of Paper IR-1. Paper IR-1 shall have :-

1.2.1. Questions : 100

1.2.2. Pass percentage : 70%

1.2.3. Time allowed : 03: hours

1.2.4. Validity : 24 months

1.3. **Question Setting**

1.3.1. Instrument Flight Rules & Procedures : 30%

1.3.2. Aircraft General Knowledge : 13%

1.3.3. Radio Aids to Navigation : 25%

1.3.4. Aircraft Instruments : 20%

1.3.5. Flight Performance and Planning : 12%.

1.4. **Syllabus**

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of an Instrument Rating – Aeroplane or Instrument Rating – Helicopter in at least the following subjects:

1.4.1. **Air Law**

Rules and regulations relevant to flight under IFR; related air traffic services practices and procedures;

1.4.2. **Aircraft General Knowledge.**

1.4.2.1. Use, limitation and serviceability of avionics and instruments necessary for the control and navigation of aeroplane under IFR and in instrument meteorological conditions; use and limitations of auto-pilot;

1.4.2.2. Compasses, turning and acceleration errors; gyroscopic instruments, operational limits and

precession effect; practices and procedures in the event of malfunction of various flight instruments;

1.4.3. **Flight Performance and planning.**

1.4.3.1. Pre-flight preparations and checks appropriate to flight under IFR.

1.4.3.2. Operational flight planning; preparation and filing of air traffic services flight plans under IFR; altimeter setting procedures.

1.4.4. **Human performance and limitations**

1.4.4.1. Human performance and limitations relevant to instrument flight in Aeroplane and helicopters;

1.4.5. **Meteorology**

1.4.5.1. Application of aeronautical meteorology; interpretation and use of reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information; altimetry.

1.4.5.2. Causes, recognition and effects of engine and airframe icing; frontal zone penetration procedures; hazardous weather avoidance.

1.4.6. **Navigation**

1.4.6.1. Practical air navigation using radio navigation aids;

1.4.6.2. Use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;

1.4.7. **Operational procedures**

1.4.7.1. 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.

1.4.7.2. Precautionary and emergency procedures; safety practices associated with flight under IFR.

1.4.8. **Radiotelephony**

1.4.8.1. Radiotelephony procedures and phraseology as applied to aircraft operations under IFR; action to be taken in case of communication failure.

- 1.5. **Recommended Study Material**
- 1.5.1. Instrument Rating Manual by Jeppesen Sanderson Inc.
  - 1.5.2. Ground Studies for Pilots Taylor & Palmer (Vol.1 & Vol.3)
  - 1.5.3. FAA Instrument Questionnaire.
  - 1.5.4. Jeppesen Airway Manual.
  - 1.5.5. CARs 94 / AIP
  - 1.5.6. ICAO Annexe-2 (Rules of the Air)
- 1.6. **IR-R:** For the revalidation of Instrument Rating a candidate shall pass written Examination of Paper IR-R. Paper IR-2 shall have :-
- 1.6.1. Questions : 50
  - 1.6.2. Pass percentage : 70%
  - 1.6.3. Time allowed : 01:30 hours
  - 1.6.4. Validity : 24 months
- 1.7. **Question Setting**
- 1.7.1. Aviation Law : 40%
  - 1.7.2. Instrument Flt Rules & Procedures : 60%.
- 1.8. **Recommended Study Material**
- 1.8.1. FAA Instrument Rating Questionnaires
  - 1.8.2. Civil Aviation Rules 1994 :CAR's 94.
  - 1.8.3. Aeronautical Information Publication (Pak)
  - 1.8.4. ICAO Annex 2 / Jeppesen

**Note: 1.** A candidate whose licence had lapsed for more than 6 months and not more than 24 months, shall pass paper IR-R. Where a licence lapse period is more than 24 months he shall pass paper IR-1.

**Note: 2.** CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates /training institutions may select any suitable publication.

**Note: 3.** The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner

**APPENDIX "D"**  
**TO ANO 90.0002**

**AIRLINE TRANSPORT PILOT LICENCE**

1. **Airline Transport Pilot Licence Examination**

1.1. **Type of Papers.**

1.1.1.	ATPL Examination	:	ATPL-1
1.1.2.	ATPL Examination	:	ATPL-2
1.1.3.	ATPL Helicopters Examination	:	ATPLH
1.1.4.	ATPL Revalidation Examination	:	ATPL-R

1.2. **ATPL-1**

1.2.1.	Questions	:	100
1.2.2.	Pass percentage	:	70%
1.2.3.	Time allowed	:	03:00 hours
1.2.4.	Validity	:	36 months

1.3. **Question Setting**

1.3.1.	Flight Performance and Planning	:	40%
1.3.2.	Principles of Flight	:	40%
1.3.3.	Operational Procedures	:	20%.

1.4. **ATPL-2**

1.4.1.	Questions	:	100
1.4.2.	Pass percentage	:	70%
1.4.3.	Time allowed	:	03:00 hours
1.4.4.	Validity	:	36 months

1.5. **Question Setting**

1.5.1.	Aircraft General Knowledge	:	30%
1.5.2.	Meteorology	:	40%
1.5.3.	Navigation	:	30%

1.6. **Syllabus**

1.6.1. **Aviation Law.**

Rules and regulation relevant to the holder of an airline pilot licence-aeroplane; rules of the air; appropriate air traffic practices and procedures;

1.6.2. **Aircraft general knowledge**

- 1.6.2.1. General characteristics and limitations of electrical, hydraulic, pressurization and other aeroplane systems; flight control systems, including auto-pilot and stability augmentation;
- 1.6.2.2. Principles of operation, handling procedures and operating limitations of aeroplane power-plants; effects of atmospheric conditions on engine performance; relevant operational information from the flight manual or other appropriate document;
- 1.6.2.3. Operating procedures and limitations of appropriate aeroplane; effects of atmospheric conditions on aeroplane performance;
- 1.6.2.4. Use and serviceable checks of equipment and systems of appropriate aeroplanes;
- 1.6.2.5. 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;
- 1.6.2.6. Maintenance procedures for airframes, systems and power-plants of appropriate aeroplanes;

1.6.3. **Flight Performance and planning**

- 1.6.3.1. effects of loading and mass distribution on aeroplane handling, flight characteristics and performance; as and balance calculations;
- 1.6.3.2. use of practical application of take-off, landing and other performance data, including procedures for cruise control;
- 1.6.3.3. 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;

1.6.4. **Human performance and limitations**

- 1.6.4.1. Human performance and limitations relevant to the airline transport pilot licence-aeroplane;

1.6.5. **Meteorology**

- 1.6.5.1. Interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviation; use of, and procedures for obtaining, meteorological information, pre-flight and in-flight;

- 1.6.5.2. aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation ; the movement of pressure systems; the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;
- 1.6.5.3. causes, recognition and effects of engine and airframe icing; frontal zone penetration procedures; hazardous weather avoidance;
- 1.6.5.4. practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts; jet-streams;

1.6.6. **Navigation**

- 1.6.6.1. air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements for log-range flights;
- 1.6.6.2. use, limitation and serviceability of avionics and instruments necessary for the control and navigation of aeroplanes;
- 1.6.6.3. use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;
- 1.6.6.4. principles and characteristics of self-contained and external-referenced navigation systems; operation of airborne equipment;

1.6.7. **Operational procedures**

- 1.6.7.1. 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;
- 1.6.7.2. precautionary and emergency procedures; safety practices associated with flight under IFR;
- 1.6.7.3. Operational procedures for carriage of freight and dangerous goods.
- 1.6.7.4. Requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aeroplanes;

1.6.8. **Principles of Flight**

Principles of flight relating to aeroplanes; subsonic aerodynamics; compressibility effects, maneuver boundary limits, wing design characteristics, effects of supplementary lift and drag devices; relationships between lift, drag and thrust at various airspeeds and indifferent flight configuration;

1.6.9. **Radiotelephony**

Radiotelephony procedures and phraseology; action to be taken in case of communication failure

1.7. **Recommended Study Material (ATPL-1)**

1.7.1. Handling Big Jets, D.P. Davies.

1.7.2. Mechanics of Flight, A.C. Kermode.

1.7.3. Air Pilot's Manual, :Vol.4 T. Thom.

1.7.4. A/C Systems & Integrated systems, EHJ Pallett.

1.7.5. Meteorology for Pilots, M. Wickson :Airlife.

1.7.6. ATPL Series, by Trevor Thom :Vol.1-4

1.7.7. Ground Studies for pilots, R.B. Underdown (Vol 1,2,3,4)

1.7.8. A/C Systems for Pilots, D.D. Remer.

1.7.9. Human factors for Aviation, Basic / Advance handbook, Air Transport Canada.

1.7.10. FAA ATPL Questionnaire, Gleim / ASA

1.7.11. Jeppesen Airway Manual.

1.7.12. CAR's 94, AIP, ANOs,

1.7.13. ICAO Annexes.

1.8. **Recommended Study Material (ATPL-2)**

1.8.1. Handling Big Jets, D.P. Davies.

1.8.2. Mechanics of Flight, A.C. Kermode.

1.8.3. Air Pilot's Manual, :Vol.4 T. Thom.

1.8.4. A/C Systems & Integrated systems, EHJ Pallett.

1.8.5. Meteorology for Pilots, M. Wickson :Airlife.

1.8.6. ATPL Series,by Trevor Thom:Vol.1-4

1.8.7. Ground Studies for pilots, R.B. Underdown (Vol 1,2,3,4)

1.8.8. A/C Systems for Pilots, D.D. Remer.

- 1.8.9. Human factors for Aviation, Basic / Advance handbook, Air Transport Canada.
- 1.8.10. FAA ATPL Questionnaire, Gleim / ASA
- 1.8.11. Jepessen Airway Manual.
- 1.8.12. CAR's 94, AIP.
- 1.8.13. ANOs / ASCs
- 1.8.14. ICAO Annexes.

1.9. **ATPL-H**

- 1.9.1. Questions : 50
- 1.9.2. Pass percentage : 70%
- 1.9.3. Time allowed : 01:30 hours
- 1.9.4. Validity : 36 months

1.10. **Question Setting**

Principles of Flight related to helicopters only

1.11. **Syllabus**

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of an Airline Transport Pilot Licence – Helicopter, in at least the following subjects:-

1.11.1. **Air Law**

Rules and regulations relevant to the holder of an airline transport pilot Licence – helicopter, rules of the air; appropriate air traffic services practices and procedures;

1.11.2. **Aircraft General Knowledge**

1.11.2.1. General; characteristics and limitations of electrical, hydraulic, and other helicopter systems; flight control systems, including autopilot and stability augmentations;

1.11.2.2. Principles of operation, handling procedures and operating limitations, of helicopter power plants; transmission (power-trains); effects of atmospheric conditions on engine performance; relevant operational information from the flight manual;

1.11.2.3. Operating procedures and limitations of appropriate helicopters; effects of atmospheric conditions on helicopter performance; relevant operational information from the flight manual;

1.11.2.4. Use and serviceability checks of equipment and

systems of appropriate helicopters;

1.11.2.5. 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;

1.11.2.6. Maintenance procedures for airframes, systems and power plants of appropriate helicopters;

1.11.3. **Flight Performance and Planning**

1.11.3.1. effects of loading and mass distribution, including external loads, on helicopter handling, flight characteristics and performance; mass and balance calculations;

1.11.3.2. use and practical application of take-off, landing and other performance data, including procedures for cruise control;

1.11.3.3. 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;

1.11.4. **Human performance and limitations**

Human performance and limitations relevant to the airline transport pilot- helicopter;

1.11.5. **Meteorology**

1.11.5.1. 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;

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

1.11.5.3. causes, recognition and effects of engine, airframe and rotor icing ; hazardous weather avoidance;

1.11.6. **Operational procedures**

1.11.6.1. interpretation and use of aeronautical documentation such as **AIP**, **NOTAM** aeronautical codes and abbreviations;

- 1.11.6.2. precautionary and emergency procedures; settling with power, ground resonance, retreating blade stall, dynamic roll-over and other operating hazards; safety practices associated with flight under **VFR**;
- 1.11.6.3. operational procedures for carriage of freight, including external loads, and dangerous goods;
- 1.11.6.4. requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from helicopters;
- 1.11.7. **Principles of flight**  
Principles of flight relating to helicopters;
- 1.11.8. **Radiotelephony**  
Radiotelephony procedures and phraseology as applied to **VFR** operations; action to be taken in case of communication failure.
- 1.12. **Recommended study material for ATPL-H**
  - 1.12.1. AP 3456A Vol 'A' :Principles of Flight
  - 1.12.2. FAA ATPL Questionnaire (Gleim / ASA)
  - 1.12.3. Basic Helicopter Handbook (ASA AC61-13B)
  - 1.12.4. Safety in and around Helicopter (AC-91-32 USA)
- 1.13. **ATPL-R**
  - 1.13.1. Questions : 50
  - 1.13.2. Pass percentage : 70%
  - 1.13.3. Time allowed : 01:30 hours
  - 1.13.4. Validity : 36 months
- 1.14. **Question Setting**
- 1.15. **Recommended Study Material for ATPL-R.**
  - 1.15.1. CAR's 94
  - 1.15.2. AIP
  - 1.15.3. ICAO Annexes / Jeppesen Airway Manual
  - 1.15.4. FAA Instrument Rating Questionnaires

**Note: 1.** A candidate whose ATPL is lapsed more than 6 months shall Pass paper ATPL-R and when the lapse period is more than 24 months, he shall pass paper ATPL-1. For revalidation of Helicopter Licence he shall also pass paper ATPL-H.

**Note: 2.** CAA does not publish books, but the above mentioned reference

*books / material is recommended. Candidates / training institutions may select any suitable publication.*

**Note: 3.** *The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner.*

**APPENDIX "E"**  
**TO ANO 90.0002**

**INSTRUCTOR RATING**

1. **INSTRUCTOR RATING EXAMINATION**
  - 1.1. **Type of Papers**
    - 1.1.1. Assistant Flight Instructor Rating Examination : AFI-1
    - 1.1.2. Flight Instructor : FI-1
  - 1.2. **Paper AFI-1**
    - 1.2.1. Questions : 100
    - 1.2.2. Pass percentage : 70%
    - 1.2.3. Time allowed : 03:00 hours
    - 1.2.4. Validity : 24 months
  - 1.3. **Question Setting**

Practical Aspects of CPL Syllabus including Instructional Techniques
  - 1.4. **Recommended Study Material**
    - 1.4.1. Trevor Thom series for CPL/PPL
    - 1.4.2. From the ground up
    - 1.4.3. FAA GI/CFI Questionnaires
    - 1.4.4. CAR's 94,
    - 1.4.5. AIP
  - 1.5. **FI-1**
    - 1.5.1. Questions : 50
    - 1.5.2. Pass percentage : 70%
    - 1.5.3. Time allowed : 03:00 hours
    - 1.5.4. Validity : 24 months
  - 1.6. **Question Setting**
    - 1.6.1. Testing, training philosophies, training program development, Lesson Planning, class room Instructional Techniques, Management of Flying Schools, Personnel Licensing Manual, use of Training Aids, Analysis & correction of student errors, Hazards involved in simulating system failures and Malfunctions in the aircraft.

1.7. **Recommended Study Material**

- 1.7.1. CARs 94, ANOs, ICAO Annexes
- 1.7.2. Flight Instructor's Handbook, FAA
- 1.7.3. Flight / Ground Instructor Questionnaire, Gliem / ASA
- 1.7.4. Flight Instructor Guide by Air Transport, Canada
- 1.7.5. Flight Instructor's Manual, Australian By Trevor Thom
- 1.7.6. Flight Instructor's Handbook, FAA
- 1.7.7. Flight / Ground Instructor Questionnaire , Gliem / ASA
- 1.7.8. Flight Instructor Guide by Air Transport Canada

**Note: 1.** *CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates /training institutions may select any suitable publication.*

**Note: 2.** *The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner*

**APPENDIX “F”**  
**TO ANO 90.0002**

**BALLOON PILOT LICENCE**

1. **BALLOON PILOT LICENCE EXAMINATION**

1.1. **Type of Papers**

1.1.1. BPL Examination : BPL-1

1.2. **BPL-1:**

- 1.2.1. Questions : 80
- 1.2.2. Pass percentage : 60%
- 1.2.3. Time allowed : 02:30 hours
- 1.2.4. Validity : 12 months

1.3. **Question Setting**

- 1.3.1. Aircraft General Knowledge  
(Airframes & Engines) : 16%
- 1.3.2. Flight Rules and Airlaw : 12%
- 1.3.3. Navigation : 8%
- 1.3.4. Aircraft Operations : 12%
- 1.3.5. Performance and Flight Planning : 16%
- 1.3.6. Meteorology : 16%
- 1.3.7. Theory of Flight : 16%
- 1.3.8. Human Performance & Limitations : 4 %.

1.4. **Syllabus**

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a free balloon pilot licence, in at least the following subjects;

1.4.1. **Air Law**

Rules and Regulations relevant to the holder of a free balloon pilot licence; rules of the air; appropriate air traffic services practices and procedures;

1.4.2. **Aircraft General Knowledge**

- 1.4.2.1. principles of operation of free balloon systems and instruments;
- 1.4.2.2. operating limitations of free balloons; relevant operational information from the flight manual or

other appropriate documents;

1.4.2.3. physical properties and practical application of gases used in free balloons;

1.4.3. **Flight Performance and planning**

1.4.3.1. Effects of loading on flight characteristics;

1.4.3.2. Use and practical application of launching, landing and other performance data, including the effect of temperature;

1.4.3.3. Pre-flight and en-route flight planning appropriate to operations under **VFR**; appropriate air traffic services procedures; altimeter setting procedures; operation in areas of high-density traffic;

1.4.4. **Human performance and limitations;**

Human performance and limitations relevant to the free balloon pilot;

1.4.5. **Meteorology;**

Application of elementary aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;

1.4.6. **Navigation;**

Practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

1.4.7. **Operational procedures;**

1.4.7.1. Use of aeronautical documentation such as **AIP**, **NOTAM**, aeronautical codes and abbreviations;

1.4.7.2. Appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;

1.4.8. **Principles of flight;**

Principles of flight relating to free balloon.

1.4.9. **Radio telephony procedures;**

The application should have demonstrated a level of knowledge appropriate to the privileges to be granted to the holder of a free balloon pilot licence, in radiotelephony procedures and phraseology as appropriate to VFR operations and on action to take in case of communication failure.

1.5. **Recommended Study Material for BPL-1**

1.5.1. Baloon Pilots Manual

- 1.5.2. Trevor Thom Series for PPL
- 1.5.3. Private Pilots Manual: Jepessen Sanderson Inc.
- 1.5.4. From the ground up :Canadian
- 1.5.5. CAR's 94
- 1.5.6. AIP
- 1.5.7. E-6B :Slide rule Computer

**Note: 1.** *CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates / training institutions may select any suitable publication.*

**Note: 2.** *The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner.*

**APPENDIX "G"**  
**TO ANO 90.0002**

**RECREATIONAL COMPETENCY CERTIFICATE**

**1. RECREATIONAL COMPETENCY CERTIFICATE EXAMINATION**

**1.1. Type of Papers**

- 1.1.1. RCC Examination : RCC-1
- 1.1.2. RCC Revalidation Examination : RCC-R

**1.2. RCC-1**

- 1.2.1. Questions : 80
- 1.2.2. Pass percentage : 60%
- 1.2.3. Time allowed : 02:30 hours
- 1.2.4. Validity : 12 months

**1.3. Question Setting**

- 1.3.1. Aircraft General Knowledge - Airframes & Engines : 16%
- 1.3.2. Flight Rules and Airlaw : 16%
- 1.3.3. Aircraft Operations : 16%
- 1.3.4. Performance and Flight Planning : 16%
- 1.3.5. Meteorology : 16%
- 1.3.6. Theory of Flight : 16%
- 1.3.7. Human Performance & Limitations : 4 %.

**1.4. Recommended Study Material**

- 1.4.1. The Ultralight Pilots Flight Training Manual (USUA publication)
- 1.4.2. Private Pilots Manual, Jepessen Sanderson Inc.
- 1.4.3. From the ground up :Canadian
- 1.4.4. CAR's 94
- 1.4.5. AIP
- 1.4.6. E-6B :Slide rule Computer

**RCC-R:**

- 1.4.7. Questions : 50
- 1.4.8. Pass percentage : 60%

1.4.9. Time allowed : 01:30 hours

1.4.10. Validity : 24 months

1.5. **Question Setting**

Flight Rules & Air law

1.6. **Recommended study material**

1.6.1. CARs 94

1.6.2. ICAO Annex 2(Rules Of the Air)

**Note: 1.** *CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates / training institutions may select any suitable publication.*

**Note: 2.** *The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner.*

**APPENDIX “H”**  
**TO ANO 90.0002**

**FLIGHT ENGINEER LICENCE**

1. **FLIGHT ENGINEER’S TECHNICAL EXAMINATION**

1.1. **Type of Papers**

1.1.1. Flight Engineer’s Licence Examination : FE-1

1.1.2 Flight Engineer’s re-validation Licence Examination : FE-R

1.2. **FE-1**

1.2.1. Questions : 100

1.2.2. Pass percentage : 70%

1.2.3. Time allowed : 03:00 hours

1.2.4. Validity : 24 months

1.3. **Question Setting**

1.3.1. Air Law Rules and Procedure : 10%

1.3.2. Aircraft General Knowledge : 15%

1.3.3. Flight Performance and Planning : 20%

1.3.4. Human performance limitations : 10%

1.3.5. Operational Procedures : 10%

1.3.6. Principles of Flight : 10%

1.3.7. Fundamentals of Navigation : 7%

1.3.8. Operational aspects of Meteorology : 8%

1.3.9. Radio telephony : 10 %.

1.4. **Syllabus**

1.4.1. **Air Law.**

Rules and regulations relevant to the holder of Flight Engineer Licence; rules and regulations governing the operation of civil aircraft pertinent to the duties of a flight engineer in Pakistan.

1.4.2. **Aircraft General Knowledge.**

1.4.2.1. Basic principles of powerplants, gas turbines and piston engines; characteristics of fuels, fuel systems including fuel control; lubrication systems; afterburners and injection systems, function and operation of engine ignition and starter systems;

- 1.4.2.2. Principles of operation, handling, procedures and operating limitations of aircraft powerplants; effects of atmospheric conditions on engine performance;
- 1.4.2.3. Airframes, flight controls, structures, wheel assemblies, brakes and anti-skid units, corrosion and fatigue life; identification of structural damage and defects;
- 1.4.2.4. Ice and rain protection systems;
- 1.4.2.5. Pressurization and air-conditioning systems, oxygen system
- 1.4.2.6. Hydraulic and pneumatic systems;
- 1.4.2.7. Basic electrical theory, electric systems ( AC and DC), aircraft wiring systems, bonding and screening;
- 1.4.2.8. Principles of operation of instruments, compasses, auto-pilots, radio communication equipment, radio and radar navigation aids, flight management systems, displays and avionics;
- 1.4.2.9. Limitations of appropriate aircraft;
- 1.4.2.10. Fire protection, detection, suppression and extinguishing systems;
- 1.4.2.11. Use and serviceability checks of equipment and systems of appropriate aircraft.
- 1.4.3. **Flight Performance and planning.**
  - 1.4.3.1. Effects of loading and mass distribution on aircraft handling, flight characteristics and performance; mass and balance calculations,
  - 1.4.3.2. Use and practical application of performance data including procedures for cruise control;
- 1.4.4. **Human Performance and limitation.**

Human performance and limitations, relevant to the flight engineer.
- 1.4.5. **Operational Procedure.**
  - 1.4.5.1. Principles of maintenance, procedures for the maintenance of airworthiness, defect reporting, pre-flight inspections, precautionary procedures for fuelling and use of external power; installed equipment and cabin systems.
  - 1.4.5.2. Normal, abnormal and emergency procedures.
  - 1.4.5.3. operational procedures for carriage of freight and dangerous goods.

1.4.6. **Principles of Flight.**

Fundamentals of aerodynamics.

1.4.7. **Fundamentals of navigation;**

Principles and operation of self-contained systems; and

1.4.8. **Operational aspects of meteorology.**

1.4.8.1. Interpretation and application of aeronautical meteorological reports, charts and forecasts; use of, and procedures for obtaining, meteorological information, pre-flight and in flight; altimetry;

1.4.8.2. Aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems, the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions; hazardous weather avoidance;

1.4.9. **Radiotelephony.**

Radiotelephony procedures and phraseology.

1.5. **Recommended Study Material**

1.5.1. Study Material, Mechanics of Flight, A.C. Kermode.

1.5.2. A/C Systems & Integrated systems, EHJ Pallett.

1.5.3. Ground Studies for Pilots, R.B. Underdown :Vol 1,2,3,4

1.5.4. A/C Systems for Pilots, D.D. Remer.

1.5.5. Human factors for Aviation, Basic / Advance handbook, Air Transport Canada.

1.5.6. FAA FE Questionnaires, :Gleim / ASA

1.5.7. Jeppesen Airway Manual.

1.5.8. CAR's 94, AIP, ANOs, Airworthiness Notices / Directives, Relevant ICAO Annexes.

1.5.9. Pilots weight and Balance Handbook.

1.5.10. AC 65-9 AirFrame and Power Plant Mechanics General Handbook.

1.5.11. AC 65-12 Air Frame a Power Plant Mechanics Power Plant Handbook.

1.5.12. AC 65-15 Air Frame and Power Plant

1.5.13. Mechanics Air Frame Handbook

- 1.6. **FE-R;** For renewal of Flight Engineer's Licence a candidate shall pass written Examination of Paper FE-R. A paper shall have :-
- 1.6.1. Questions : 50
  - 1.6.2. Pass percentage : 70%
  - 1.6.3. Time allowed : 01:30 hours
  - 1.6.4. Validity : 24 months
- 1.7. **Question Setting**
- 1.7.1. Flight Rules and Airlaw
- 1.8. **Recommended Study Material for FE-R**
- 1.8.1. CAR's 94
  - 1.8.2. AIP
  - 1.8.3. ICAO Annexes

**Note: 1.** *CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates / training institutions may select any suitable publication.*

**Note: 2.** *The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner.*

**APPENDIX “J”**  
**TO ANO 90.0002**

**GLIDER PILOT LICENCE**

1. **GLIDER PILOT LICENCE EXAMINATION**

1.1. **Type of Papers**

- 1.1.1. GPL Examination : GPL-1
- 1.1.2. GPL Revalidation Examination : GPL-R

1.2. **GPL-1**

- 1.2.1. Questions : 80
- 1.2.2. Pass percentage : 60%
- 1.2.3. Time allowed : 02:30 hours
- 1.2.4. Validity : 12 months

1.3. **Question Setting**

- 1.3.1. Aircraft General Knowledge - Airframes & Engines : 16%
- 1.3.2. Flight Rules and Airlaw : 16%
- 1.3.3. Aircraft Operations : 16%
- 1.3.4. Performance and Flight Planning : 16%
- 1.3.5. Meteorology : 16%
- 1.3.6. Theory of Flight :16%
- 1.3.7. Human Performance & Limitations : 4 %.

1.4. **Syllabus**

1.4.1. **Flight Theory**

- 1.4.1.1. Flying controls; direction of movement; effect and purpose of use of spoilers, if fitted and their effects on launching.
- 1.4.1.2. Factors to be taken into account when loading a Glider prior to flight.
- 1.4.1.3. Precautions to be observed when recovering from the more unusual attitudes of flight i.e., steep turns, steep dives etc.,
- 1.4.1.4. General rules to be followed at a launching point with regard to safe handling of Gliders.

1.4.2. **Glider Operating Limitations:**

- 1.4.2.1. Airframe limitations; permitted maneuvers, speed limitations.
- 1.4.2.2. Knowledge of various methods used for Glider towing with their respective advantages and disadvantages.
- 1.4.2.3. General precautions to be followed in the event of Cable breakage, tow failure etc.
- 1.4.2.4. General knowledge of daily inspection on Gliders.
- 1.4.2.5. Certificate of Airworthiness; information contained therein.

1.4.3. **Knowledge Of Instruments And Compass**

Instruments and their principle of working with the pilot, serviceability check prior to flight error and limitations.

1.4.4. **Meteorology**

- 1.4.4.1. Weather phenomena connected with soaring due to thermals, clouds, hill slopes etc.
- 1.4.4.2. Effect of temperature, density and winds on launching a sailplane.

1.4.5. **Aviation Law**

- 1.4.5.1. Rules of the Air ICAO Annex 2, General Knowledge of the Aircraft rules in so far as they affect the responsibilities of a Glider Pilot e.g.
- 1.4.5.2. Dangerous flying; flying over Cities; rules concerning aerobatics; Smoking near aircraft; parachute descents and dropping of articles, renewal; validity of Glider Pilot's Licence etc.

1.4.6. **Accidents**

- 1.4.6.1. Notifiable accident; Accident of Serious Structural damage.
- 1.4.6.2. Distress Urgency and Safety Signals; Signals displayed in the Signals Area on an airfield.

1.4.7. **GENERAL RULES FOR AIR TRAFFIC**

Risk of collision; Risk of collision in Air Traffic routes; Aircraft having the right of way; weather minima for I.F.R. conditions.

1.5. **Recommended Study Material**

- 1.5.1. Glider Pilots Manual
- 1.5.2. From the ground up :Canadian

- 1.5.3. Private Pilots Manual (Jepp & Sanderson)
- 1.5.4. CAR's 94
- 1.5.5. AIP
- 1.5.6. NOTAMS
- 1.5.7. E-6B :Slide rule Computer
- 1.6. **GPL-R**
  - 1.6.1. Questions : 50
  - 1.6.2. Pass percentage : 60%
  - 1.6.3. Time allowed : 01:30 hours
  - 1.6.4. Validity : 12 months
- 1.7. **Question Setting**
  - 1.7.1. Flight Rules and Airlaw.
- 1.8. **Recommended Study Material for GPL-R**
  - 1.8.1. CAR's 94
  - 1.8.2. AIP
- 2. **TECHNICAL EXAMINATION FOR GLIDER INSTRUCTOR'S RATING**
  - 2.1. **GPL-2**
    - 2.1.1. Questions : 50
    - 2.1.2. Pass percentage : 70%
    - 2.1.3. Time allowed : 01:30 hours
    - 2.1.4. Validity : 12 months
  - 2.2. **Question Setting**
    - 2.2.1. Flight Theory : 20%
    - 2.2.2. Glider Instructions : 40%
    - 2.2.3. Glider Operations : 20
    - 2.2.4. Meteorology : 10%
    - 2.2.5. Compass and Instruments: 10%
  - 2.3. **Syllabus**
    - 2.3.1. **Flight Theory**
      - 2.3.1.1. Flying controls; direction of movements and effect; knowledge of the effect and purpose of spoilers.

- 2.3.1.2. Factors to be taken into account when loading a glider prior to flight.
- 2.3.1.3. Precautions to be observed when recovering from the maneuvers, unusual attitudes of flight i.e., steep-turns steep-dives etc.
- 2.3.1.4. General principles to be followed at a launching point with regard to safe handling of a glider.
- 2.3.1.5. Ability of discusses CL and CD curves; L/D ratio factors effecting lift and drag.
- 2.3.1.6. Ability to impart instructions on forces acting on a glider in flight gliding for range and endurance, effect of weight, temperature and density on gliding.
- 2.3.1.7. Explanation of stalling, spinning, autorotation.
- 2.3.2. **Glider Instructions**
  - 2.3.2.1. Airframe limitations, permitted manouvres, speed limitations operating speeds.
  - 2.3.2.2. Knowledge of various methods used for glider towing with their respective advantages and disadvantages.
  - 2.3.2.3. General precautions to be followed in the event of cable breakage, tow failure etc.
  - 2.3.2.4. General knowledge of daily inspection on gliders.
  - 2.3.2.5. Certificate of Airworthiness, information contained therein.
- 2.3.3. **Gliding Operations**
  - 2.3.3.1. Sequences of instruction for gliding.
  - 2.3.3.2. Qualifications for the International Gliding Certificate.
  - 2.3.3.3. Issue and renewal of Glider Pilot Licence.
- 2.3.4. **Meteorology**
  - 2.3.4.1. Factors effecting development of thermals.
  - 2.3.4.2. Weather phenomena connected with soaring due to thermals, clouds, hill slopes.
  - 2.3.4.3. Effect of temperature on launching of gliders.
  - 2.3.4.4. Cloud types and categories with names of clouds that are advantageous to soaring.
  - 2.3.4.5. Various types of cloud formation.

2.3.4.6. General knowledge of the phenomena connected with fog mist, and other hazards to gliding.

2.3.5. **Compass And Instruments**

Instruments and their principle of working with the pilot serviceability check prior to flight.

**Note: 1.** *CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates /training institutions may select any suitable publication.*

**Note: 2.** *The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner*

**APPENDIX “K”**  
**TO ANO 90.0002**

**FLIGHT OPERATIONS OFFICERS LICENCE**

1. **FOO TECHNICAL EXAMINATION**

1.1. **Type of Papers**

- 1.1.1. FOO Licence Examinations Paper : FOO-1
- 1.1.2. FOO Licence Examinations Paper : FOO-2
- 1.1.3. Communication Procedures Examinations : FOO-3
- 1.1.4. Aviation Law Examinations for revalidation : FOO-R

1.2. **FOO-1**

- 1.2.1. Questions : 100
- 1.2.2. Pass percentage : 70%
- 1.2.3. Time allowed : 03:00 hours
- 1.2.4. Validity : 24 months

1.3. **Question Setting**

- 1.3.1. Aircraft General Knowledge : 20%
- 1.3.2. Aircraft Operation : 15%
- 1.3.3. Performance and Flight Planning : 30%
- 1.3.4. Meteorology : 30%
- 1.3.5. Communication Procedures : 5%

1.4. **Paper FOO-2**

- 1.4.1. Questions : 100
- 1.4.2. Pass percentage : 70%
- 1.4.3. Time allowed : 03:00 hours
- 1.4.4. Validity : 24 months

1.5. **Question Setting**

- 1.5.1. Navigation : 25%
- 1.5.2. Principles of Flight : 25%
- 1.5.3. Flight Rules and Air Law : 25%
- 1.5.4. Operational Procedures : 25%

1.6. **Knowledge**

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a flight operations officer licence in at least the following subjects:

1.6.1. **Aviation Law**

1.6.1.1. Rules and Regulations relevant to the holder of a flight operations officer licence; appropriate air traffic services practices and procedures enforced in Pakistan;

1.6.2. **Aircraft General Knowledge**

1.6.2.1. Principles of operation of Aeroplane power plants, systems and instruments;

1.6.2.2. Operating limitations of Aeroplanes and power plants;

1.6.2.3. Minimum equipment list.

1.6.3. **Flight performance calculation and planning procedures**

1.6.3.1. Effects of loading and mass distribution on aircraft performance and flight characteristics; mass and balance calculation;

1.6.3.2. Operational flight planning; fuel consumption and endurance calculations, alternate airport selection procedures, en-route cruise control and extended range operation;

1.6.3.3. Preparation and filing of air traffic services flight plans;

1.6.3.4. Basic principles of computer-assisted planning systems;

1.6.4. **Meteorology**

1.6.4.1. Aeronautical meteorology; the movement of pressure systems; the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;

1.6.4.2. Interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining meteorological information;

1.6.5. **Navigation**

Principles of air navigation with particular reference to instrument flight;

1.6.6. **Operational procedures**

- 1.6.6.1. Use of aeronautical documentation;
- 1.6.6.2. Operational procedures for the carriage of freight and dangerous goods;
- 1.6.6.3. Procedures relating to aircraft accidents; and incidents; emergency flight procedure;
- 1.6.6.4. Procedures relating to unlawful interference and sabotage of aircraft;

1.6.7. **Principles of flight**

- 1.6.7.1. Principles of flight relating to appropriate category of aircraft; and

1.6.8. **Radio communication**

- 1.6.8.1. Procedures for communicating with aircraft and relevant ground stations.

1.7. **Recommended Study Material for FOO-1**

- 1.7.1. Ground Studies for Pilots - RB Underdown :UK
- 1.7.2. Meteorology for Pilots - M. Wickson :UK
- 1.7.3. Aviation Weather Handbook - :FAA
- 1.7.4. FAA Flight Dispatcher / ATPL Questionnaire.
- 1.7.5. Jeppesen Airway Manual.
- 1.7.6. AIP Pakistan
- 1.7.7. Civil Aviation Rules 1994.
- 1.7.8. Relevant ICAO Annexes.
- 1.7.9. E6B : Slide rule & Approved Electronic Computer.

1.8. **Recommended Study Material for FOO-2**

- 1.8.1. Ground Studies for Pilots: Vol- Radio Aids
- 1.8.2. Ground Studies for Pilots: Vol- Navigation General
- 1.8.3. Jeppesen Airway Manual, AIP & CARs' 94, ICAO Annexes

1.9. **FOO-3**

- 1.9.1. Questions : 30
- 1.9.2. Pass percentage : 70%
- 1.9.3. Time allowed : 01:00 hours

- 1.9.4. Validity : 24 months
- 1.10. **Question Setting**
  - 1.10.1. Communication Procedures
- 1.11. **Recommended study material**
  - 1.11.1. ICAO Annex-10
- 1.12. **FOO-4**
  - 1.12.1. Questions : 50
  - 1.12.2. Pass percentage : 70%
  - 1.12.3. Time allowed : 01:30 hours
  - 1.12.4. Validity : 24 months
- 1.13. **Question Setting**
  - 1.13.1. Flight Rules & Aviation Law
- 1.14. **Recommended Study Material**
  - 1.14.1. ICAO Annex-2
  - 1.14.2. CARs'94
  - 1.14.3. AIP, Pakistan
  - 1.14.4. Jeppesen Airway Manual

**Note: 1.** CAA does not publish books, but the above mentioned reference books / material is recommended. Candidates /training institutions may select any suitable publication.

**Note: 2.** The weightage / proportion of questions are just an approximation, which may vary as per the discretion of the Examiner

**APPENDIX “L”**  
**TO ANO 90.0002**

**AIR TRAFFIC CONTROLLER LICENCE**

1. **SYLLABUS**

1.1. The theory Examination shall be from the following “Approved Syllabus”:

- 1.1.1. ICAO Annex 2
- 1.1.2. ICAO Annex 3
- 1.1.3. ICAO Annex 5
- 1.1.4. ICAO Annex 6 Volume-I
- 1.1.5. ICAO Annex 10 Volume-II
- 1.1.6. ICAO Annex 11
- 1.1.7. ICAO Annex 14
- 1.1.8. ICAO Annex 15
- 1.1.9. ICAO Doc 4444 :RAC
- 1.1.10. CATI Course Material for Basic Course
- 1.1.11. CATI Course Material for Radar Course
- 1.1.12. Manual of Air Traffic Services
- 1.1.13. Aeronautical Information Publication

1.2. **Air Law**

- 1.2.1. Rules and regulations relevant to the air traffic controller;

1.3. **Air traffic control equipment**

Principles, use and limitations of equipment used in air traffic control;

1.3.1. **General Knowledge**

Principles of flight; principles of operations and functioning of aircraft, power plants and systems; aircraft performances relevant to air traffic control operations;

1.3.2. **Human performance and limitations**

Human performance and limitations relevant to air traffic control;

1.3.3. **Language**

The language or languages nationally designated for use in air traffic control and ability to speak such language or languages without accent or impediment which would adversely affect radio communication;

1.3.4. **Meteorology**

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

1.3.5. **Navigation**

Principles of air navigation; principle, limitation and accuracy of navigation systems and visual aids; and

1.3.6. **Operational procedures**

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

1.3.7. **Aerodrome control rating**

- i) Aerodrome layout : physical characteristic 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 ; and
- ix) Emergency and search and rescue plans;

1.3.8. **APPROACH CONTROL AND AREA CONTROL 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 flows ;

- vii) weather phenomena ; and
- viii) emergency and search and rescue plans; and

1.3.9. **Approach radar, approach precision radar and area radar control ratings**

The applicant shall meet the requirements specified in the para above 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:

- 1.3.9.1. Principles, use and limitations of radar, other surveillance systems and associated equipment; and
- 1.3.9.2. procedures for the provision of approach , precision approach or area radar control service, as appropriate, including procedures to ensure appropriate terrain clearance

2. **ATCO TECHNICAL EXAMINATION**

2.1. **Type of Papers**

- 2.1.1. ATC Licence : ATC-1
- 2.1.2. ATC Licence : ATC-2
- 2.1.3. ATCR (Aerodrome) : ATCR-1
- 2.1.4. ATCR (Approach) : ATCR-2
- 2.1.5. ATCR (Approach radar) : ATCR-3
- 2.1.6. ATCR (Approach Precision) : ATCR-4
- 2.1.7. ATCR (Area) : ATCR-5
- 2.1.8. ATCR (Area Radar) : ATCR-6

2.2. **ATC-1**

- 2.2.1. Questions : 100
- 2.2.2. Pass percentage : 70%
- 2.2.3. Time allowed : 03:00 hours
- 2.2.4. Validity : 24 months

2.3. **Question Setting**

General Aviation Knowledge as per Annex-1

2.4. **Recommended study material**

ICAO Annexes 3, 5, 10, 14 and 15.

2.5. **ATC-2**

- 2.5.1. Questions : 100
- 2.5.2. Pass percentage : 70%
- 2.5.3. Time allowed : 03:00 hours
- 2.5.4. Validity : 24 months
- 2.6. **Question Setting**  
Practical aspects of Air Traffic Controlling.
- 2.7. **Recommended study material**  
ICAO Annexes 2, 6, 11 and ICAO Doc 4444 (Not including chapters for specific ATC Ratings.)
- 2.8. **ATCR-1:**
  - 2.8.1. Questions : 100
  - 2.8.2. Pass percentage : 70%
  - 2.8.3. Time allowed : 03:00 hours
  - 2.8.4. Validity : 24 months
- 2.9. **Question Setting**  
Practical aspects of Aerodrome Control Rating.
- 2.10. **Recommended study material**  
Doc 4444 and CATI Study Material
- 2.11. **ATCR-2**
  - 2.11.1. Questions : 100
  - 2.11.2. Pass percentage : 70%
  - 2.11.3. Time allowed : 03:00 hours
  - 2.11.4. Validity : 24 months
- 2.12. **Question Setting**  
Practical aspects of Approach Control Rating.
- 2.13. **Recommended study material**  
Doc 4444 and CATI Study Material
- 2.14. **ATCR-3**
  - 2.14.1. Questions : 100
  - 2.14.2. Pass percentage : 70%
  - 2.14.3. Time allowed : 03:00 hours

- 2.14.4. Validity : 24 months
- 2.15. **Question Setting**  
Practical aspects of Approach Radar Control Rating.
- 2.16. **Recommended study material**  
Doc 4444 and CATI Study Material
- 2.17. **ATCR-4:**
- 2.17.1. Questions : 100
- 2.17.2. Pass percentage : 70%
- 2.17.3. Time allowed : 03:00 hours
- 2.17.4. Validity : 24 months
- 2.18. **Question Setting**  
Practical aspects of Approach Precision Radar Control Rating.
- 2.19. **Recommended study material**  
Doc 4444 and CATI Study Material
- 2.20. **ATCR-5:**
- 2.20.1. Questions : 100
- 2.20.2. Pass percentage : 70%
- 2.20.3. Time allowed : 03:00 hours
- 2.20.4. Validity : 24 months
- 2.21. **Question Setting**  
Practical aspects of Area Control Rating.
- 2.22. **Recommended study material**  
Doc 4444 and CATI Study Material
- 2.23. **ATCR-6**
- 2.23.1. Questions : 100
- 2.23.2. Pass percentage : 70%
- 2.23.3. Time allowed : 03:00 hours
- 2.23.4. Validity : 24 months
- 2.24. **Question Setting**  
Practical aspects of Area Radar Control Rating.
- 2.25. **Recommended study material**

Doc 4444 and CATI Study Material

2.26. **THEORY EXAMINATIONS**

2.26.1. The theory Examination shall be from the following “Approved Syllabus”:

- 2.26.1.1. ICAO Annex 2
- 2.26.1.2. ICAO Annex 3
- 2.26.1.3. ICAO Annex 5
- 2.26.1.4. ICAO Annex 6 Volume-I
- 2.26.1.5. ICAO Annex 10 Volume-II
- 2.26.1.6. ICAO Annex 11
- 2.26.1.7. ICAO Annex 14
- 2.26.1.8. ICAO Annex 15
- 2.26.1.9. ICAO Doc 4444 :RAC
- 2.26.1.10. CATI Course Material for Radar Course
- 2.26.1.11. Manual of Air Traffic Services
- 2.26.1.12. Aeronautical Information Publication

2.27. An applicant is required to qualify papers ATC-1, ATC-2 and at least one ATC Rating paper (ATCR) to qualify for an ATC Licence.

**APPENDIX "M"**  
**TO ANO 90.0002**

**FLIGHT RADIO TELEPHONY OPERATOR LICENCE**

1. **FLIGHT RADIO TELEPHONY OPERATOR EXAMINATION**

1.1. **Type of Papers**

1.1.1. FRTO Examination : FRTO-1

1.1.2. FRTO Practical Test : FRTO-2

1.2. Paper FRTO-1 For issue of FRTO Licence a candidate shall pass written Examination of Paper RT-1. A paper shall have

1.2.1. Questions : 50

1.2.2. Pass percentage : 70%

1.2.3. Time allowed : 01:30 hours

1.2.4. Validity : 12 months

1.3. **Syllabus**

1.3.1. Exchange of communication between aircraft station and a ground station.

1.3.2. Application on radiotelephony procedures.

1.3.3. Application of phonetic letters.

1.3.4. Clarity and precision of communication.

1.3.5. Normal-type messages encountered in R/T communications.

1.3.6. Departure and arrival procedures.

1.3.7. Request for D.F.

1.3.8. Passing of position reports.

1.3.9. Request for MET information.

1.3.10. Distress procedures.

1.3.11. Urgency procedures.

1.3.11.1. Safety procedures.

1.3.11.2. Theory of radio wave-propagation.

1.3.12. H.F. Radio telephony.

1.3.13. V.H.F. radio telephony.

1.3.14. Current radiotelephony operation procedures and practices.

- 1.3.15. Composition of messages.
- 1.3.16. Order of priority.
- 1.3.17. Categories of messages.
- 1.3.18. Special codes, abbreviations and signals.
- 1.3.19. Distress procedures.
- 1.3.20. Urgency procedures.
- 1.3.21. Safety procedures.
- 1.3.22. Current frequencies and their use.
- 1.3.23. Publications and notices .
- 1.3.24. Detailed knowledge of these CAA/ICAO Publications and notams.
- 1.3.25. Ability to refer those, with speed and then apply the information contained therein, to individual cases.

**APPENDIX “N”**  
**TO ANO 90.0002**

**AIRCRAFT MAINTENANCE ENGINEER LICENCE**

1. **SYLLABUS**

1.1. **Air Law and Airworthiness Requirements**

Rules and regulations relevant to aircraft maintenance engineer Licence holder including applicable airworthiness requirements governing certification and continuing airworthiness of aircraft and approved aircraft maintenance organizations and procedures

1.2. **Natural science and aircraft general knowledge**

Basic Mathematics, Units of Measurements, Theory of Flight, High speed theory of flight, Fundamental principles and theory of physics and chemistry applicable to aircraft maintenance & equivalent to HSSC level.

1.3. **Aircraft Engineering**

Characteristics and application of the materials of aircraft construction including principles of construction and functioning of aircraft structures, fastening techniques, power plants and their associated systems, mechanical, fluid. Electrical and electronic power sources, aircraft instrument and display system, Digital electronics & logic circuits, aircraft control systems and airborne navigation and communication systems.

1.4. **Aircraft Maintenance**

Tasks required to ensure the continuing airworthiness of an aircraft including methods and procedures for the repair, Inspection, replacement, modification or defect rectification of aircraft structure, components and systems as per applicable standards of airworthiness.

2. **Aircraft Maintenance Engineer Licence**

2.1. **Type of Papers**

- |   |          |
|---|----------|
| 2.1.1. Airframe Basic Examination                     | : AME-1  |
| 2.1.2. Engines Basic Examination                      | : AME-2  |
| 2.1.3. Electrical Basic Examination                   | : AME-3  |
| 2.1.4. Instrument Basic Examination                   | : AME-4  |
| 2.1.5. Communication and navigation basic examination | : AME -5 |
| 2.1.6. Radar Basic Examination                        | : AME-6  |

2.2. **Airframe Basic Examination (paper AME-1)**

Exchange of communication between aircraft station and a ground station.

- 2.2.1. Questions : 100
- 2.2.2. Pass percentage : 70%
- 2.2.3. Time allowed : 03:00 hours
- 2.2.4. Validity : 24 months

2.3. **Engines Basic Examinations (paper AME-2)**

- 2.3.1. Questions : 100
- 2.3.2. Pass percentage : 70%
- 2.3.3. Time allowed : 03:00 hours
- 2.3.4. Validity : 24 months

2.4. **Electrical Basic Examination (paper AME-3)**

- 2.4.1. Questions : 100
- 2.4.2. Pass percentage : 70%
- 2.4.3. Time allowed : 03:00 hours
- 2.4.4. Validity : 24 months

2.5. **Instrument Basic Examination (AME-4)**

- 2.5.1. Questions : 100
- 2.5.2. Pass percentage : 70%
- 2.5.3. Time allowed : 03:00 hours
- 2.5.4. Validity : 24 months

2.6. **Communication and Navigation (AME-5)**

- 2.6.1. Questions : 100
- 2.6.2. Pass percentage : 70%
- 2.6.3. Time allowed : 03:00 hours
- 2.6.4. Validity : 24 months

2.7. **Radar Basic Examination (AME-6)**

- 2.7.1. Questions : 100
- 2.7.2. Pass percentage : 70%
- 2.7.3. Time allowed : 03:00 hours
- 2.7.4. Validity : 24 months

**APPENDIX "O"**  
**TO ANO 90.0002**

**COMPETENCY CERTIFICATES CABIN ATTENDANTS**

1. **CABIN ATTENDANTS COMPETENCY CERTIFICATE EXAMINATION**

1.1. **Type of Papers**

- 1.1.1. Cabin Examination : Cabin-1
- 1.1.2. Cabin Examination : Cabin-2 (A/c Specific)
- 1.1.3. Cabin Revalidation Examination : Cabin-R

1.2. **Cabin-1**

- 1.2.1. Questions : 80
- 1.2.2. Pass percentage : 70%
- 1.2.3. Time allowed : 02:30 hours
- 1.2.4. Validity : 24 months

1.3. **Cabin-2**

- 1.3.1. Questions : 50
- 1.3.2. Pass percentage : 70%
- 1.3.3. Time allowed : 01:30 hours
- 1.3.4. Validity : 24 months

1.4. **Cabin-R:**

- 1.4.1. Questions : 50
- 1.4.2. Pass percentage : 70%
- 1.4.3. Time allowed : 01:30 hours
- 1.4.4. Validity : 24 months

1.5. **Syllabus**

1.5.1. **Knowledge**

The applicant shall have demonstrated a level of knowledge appropriate to the holder of an Cabin Attendant Competency Licence, in at least the above mentioned subjects: -

1.5.2. **AVIATION INDOCTRINATION**

Regulatory aspects

- 1.5.2.1. National and international
- 1.5.2.2. Company - specific

- 1.5.3. **Aviation Terminology and terms of reference**
  - 1.5.3.1. Terminology
  - 1.5.3.2. Terms of reference
- 1.5.4. **Theory of flight & aircraft operations**
  - 1.5.4.1. Theory of flight
  - 1.5.4.2. Major aircraft components
  - 1.5.4.3. Critical surfaces :Contamination of
  - 1.5.4.4. Pressurization system
  - 1.5.4.5. Weight and balance.
  - 1.5.4.6. Meteorology / Turbulence
  - 1.5.4.7. Communications equipment
  - 1.5.4.8. Air Traffic Control
- 1.5.5. **Physiology of flight**
  - 1.5.5.1. Oxygen system and use
  - 1.5.5.2. Effects of altitude
  - 1.5.5.3. Cabin poisoning
- 1.5.6. **Duties And Responsibilities**
  - 1.5.6.1. General responsibilities
  - 1.5.6.2. Pre-flight and post-flight.
  - 1.5.6.3. In-flight.
- 1.5.7. **Emergency Procedures**
  - 1.5.7.1. General Emergency procedures & basic principles.
  - 1.5.7.2. Emergency equipment.
  - 1.5.7.3. Fire fighting
  - 1.5.7.4. Smoke removal procedures
  - 1.5.7.5. Emergency lighting systems
  - 1.5.7.6. Decompression-slow / rapid.
  - 1.5.7.7. Emergency landing preparations.
  - 1.5.7.8. Evacuation procedures
  - 1.5.7.9. Unwarranted evacuations-water ditching
  - 1.5.7.10. Life-and slide-rafts :use of

- 1.5.7.11. Unlawful interference
- 1.5.8. **Carriage Of Dangerous Goods**
  - 1.5.8.1. General philosophy
  - 1.5.8.2. Prohibited and dangerous goods.
  - 1.5.8.3. Label identification
  - 1.5.8.4. Exceptions
  - 1.5.8.5. Emergency procedures
- 1.5.9. **Human Factors**
  - 1.5.9.1. Fundamental human factor concepts.
  - 1.5.9.2. Crew resource management: CRM
- 1.5.10. **Hygiene, Aviation Medicine & First Aid**
  - 1.5.10.1. Terminology
  - 1.5.10.2. Personal hygiene
  - 1.5.10.3. Tropical hygiene
  - 1.5.10.4. Transmissible diseases
  - 1.5.10.5. Quarantinable diseases
  - 1.5.10.6. Endemic diseases
  - 1.5.10.7. Food poisoning
  - 1.5.10.8. In-flight medical emergencies & incidents.
  - 1.5.10.9. Artificial respiration
  - 1.5.10.10. Effects of drugs / intoxicants
  - 1.5.10.11. First-aid medical supplies
  - 1.5.10.12. First Aid kits: contents & use of
  - 1.5.10.13. Medical kits: contents & use of
  - 1.5.10.14. Emergency child birth

**APPENDIX “P”**  
**TO ANO 90.0002**

**VALIDATION CERTIFICATES**

**1. Validation Certificate Examination**

- 1.1. Validation Certificates examination (**Paper VAL-1**): For issue of Validation Certificates an applicant shall pass written Examination of Paper VAL-1. The paper shall have: -
  - 1.1.1. Questions : 50
  - 1.1.2. Pass percentage : 70%
  - 1.1.3. Time allowed : 01:30 hours
  - 1.1.4. Validity : 12 months
- 1.2. The exam shall be of multiple choice type from Flight Rules and Air Law (Annex 2, CARs'94 & Jeppesen)
- 1.3. With prior approval of the DGCAA, validation exam can be conducted at the State of registry of aircraft, at the Operator's expense. The team shall consist of 02 members.
- 1.4. The validation exam shall be conducted at the licensing office. Application for any such exam shall be submitted along with the requisite fee voucher (Examination fee plus special exam fee), three days prior to the date requested for the examination. The fee is to be submitted as specified in fee schedule.
- 1.5. Question Setting
  - 1.5.1. Flight Rules and Procedures : 20%
  - 1.5.2. Airlaw : 20%
  - 1.5.3. AIP : 20%
  - 1.5.4. Jeppesen : 20%
  - 1.5.5. ATC Phraseology in English. : 20%
- 1.6. Recommended Study Material
  - 1.6.1 CAR's 94 / ANOs
  - 1.6.2 AIP
  - 1.6.3 ICAO Annexe 2(rules of the Air) / Jepessen Airway Manual

**APPENDIX “Q”**  
**TO ANO 90.0002**

**TYPE TECHNICAL EXAMINATION (TT-1)**

1. Type Technical Paper (TT-1) in case of Flight crew for Aircraft weight category below 5700kgs, will be conducted by the Licensing office or Aviation training center. For Aircraft weight categories more than 5700Kgs, the approved training program /Type conversion ground training course shall contain the type technical, conducted by the Approved Aviation training center.
2. Type Technical Exam Paper TT-1: The type technical examination shall consist of two parts, part 'A' for aircraft specification and part 'B' for limitations and emergencies.
  - 2.1. Questions : 100
  - 2.2. Pass percentage : 70%
  - 2.3. Time allowed : 01:30 hours
  - 2.4. Validity : 12 months
3. An aggregate of at least 70% must be obtained with a minimum of 80% in part B.

**APPENDIX “R”**  
**TO ANO 90.0002**

**APPROVED PERSON EXAMINATION (AP-1)**

1. Approved Person Examination, Paper AP-1: Any person who conducts a test/examination or a flight Check on behalf of the Licensing Authority, shall be required to pass AP-1 examination to ensure that he/she has adequate knowledge and understanding of the Regulatory work in general, and licensing in particular.
2. Syllabus : The syllabus of AP-1 Examination shall be as follows
  - 2.1. Chicago Convention.
  - 2.2. ICAO Annex 1.
  - 2.3. CARs1994.
  - 2.4. Air Navigation Orders (pertaining to licensing).
  - 2.5. Air Safety circulars.
3. AP-1 exam will be an open book examination. The Paper will comprise of 50 questions with a pass marks of 60%.

**APPENDIX "S"**  
**TO ANO 90.0002**

**AGRICULTURE RATING EXAMINATION (AG-1)**

1. The Agriculture rating examination (Paper AG-1): For issue of Agriculture rating an applicant shall pass written Examination of Paper AG-1. The paper shall have
  - 1.1. Questions : 50
  - 1.2. Pass percentage : 70%
  - 1.3. Time allowed : 01:30 hours
  - 1.4. Validity : 24 months
2. **Syllabus**
  - 2.1. Agriculture aircraft pre-flight inspection and pilot maintenance, serviceability of engine and instruments
  - 2.2. Problems associated with low level operations over various type of terrain
  - 2.3. Theoretical aspects of agricultural aviation including types of material sprayed or sown, application rates, application techniques, airspeed versus swath width, meteorological aspects affecting drift environmental responsibilities
  - 2.4. Strip Operations, surface conditions, effect of soft ground, frost and thaw.
  - 2.5. CARs / ASCs / AIP / Rules of the Air.



**APPENDIX “U”**  
**TO ANO 90.0002**

**FEE SCHEDULE**

1. The fee schedule shall be in accordance with the approved fee schedule published by the Personnel Licensing Office.
2. All applicants resident in Pakistan are required to deposit the prescribed fee in the National Bank of Pakistan, terminal-1 branch, Q.I.A.P Karachi for credit to CAA collection Account # 2561-8. Challan forms are available in the bank **or with the CAA revenue offices at all Airports.**
3. Fee can also be paid thorough Bank Draft/ Pay order drawn in favor of Director General, Civil Aviation Authority, Karachi payable in the National Bank, Terminal -1 Branch, QIAP, Karachi.
4. In case of applicant residing outside Pakistan, the fee shall be paid in equivalent US Dollars in the form of Bank Draft in the favor of Director General, Civil Aviation Authority, Pakistan.