

## Ground Examination Syllabus

Commercial Pilot's Licence (Aeroplanes)

Commercial Pilot's Licence (Helicopters and Gyroplanes)

Airline Transport Pilot's Licence (Helicopters and Gyroplanes)

### **1 AVIATION LAW, FLIGHT RULES AND PROCEDURES**

1. Publications may NOT be consulted during the examinations.
2. Candidates will not be required to memorise details of geographical positions, or of special procedures applicable to any particular aerodrome, flight information region, control zone or airway.

### **INTERNATIONAL AGREEMENTS AND ORGANISATIONS**

#### **1.1 The Convention of Chicago**

##### **1.1.1 Part I Air Navigation**

1.1.1.1 General principles and application, sovereign territory

1.1.1.2 Flight over territory of Contracting State: right of non scheduled flight, scheduled air services, cabotage, landing at customs airports, applicability of air regulations, rules of the air, search of aircraft

1.1.1.3 Measures to facilitate air navigation: customs duty

1.1.1.4 Conditions to be fulfilled with respect to aircraft: certificates of airworthiness, licences of personnel, recognition of certificates and licences, cargo restrictions, photographic apparatus; documents to be carried in aircraft

1.1.1.5 International standards and recommended practices: adoption of international standards and procedures, endorsement of certificates and licences, validity of endorsed certificates and licences; departures from international standards and procedures (notification of differences)

##### **1.1.2 Part 2 ICAO**

1.1.2.1 Objectives and composition

1.1.2.2 Regional structure and offices

1.1.2.3 Duties in relation to:

annexes to the convention standards and recommended practices procedures for air navigation services regional supplementary procedures regional air navigation planning manuals and circulars

##### **1.1.3 Other International Agreements**

1.1.3.1 The international air transport agreement: the five freedoms

1.1.3.2 The Convention of Tokyo: jurisdiction authority of the pilot-in command of the aircraft

1.1.3.3 European organisations, name, composition and relevant documents: European Civil Aviation Conference (ECAC), including Joint Aviation Authorities OAA)

Eurocontrol  
European Commission (EC)

- 1.1.4 Malaysia Civil Air Regulations 1996 (MCAR)  
1.1.4.1 The regulations in the MCAR 1996 (as amended):

Operations Manual  
Training Manual  
operator's responsibilities  
Loading - public transport aircraft and suspended loads  
Public transport - operating conditions  
Aircraft registered in Malaysia - aerodrome operating minima  
Pilots to remain at controls  
Pre-flight action by commander of aircraft  
Passenger briefing by commanders  
Public transport of passengers - duties of commander  
Operation of radio in aircraft  
Minimum Navigation Performance  
Use of flight recording systems and preservation of records  
Towing of gliders  
Towing, picking up and raising of persons and articles  
Dropping of articles and animals  
Dropping of persons  
Carriage of weapons and munitions of war  
Carriage of dangerous goods  
Method of carriage of persons  
Exits and break-in markings  
Endangering safety of an aircraft  
Endangering safety of any person or property  
Drunkenness in aircraft  
Smoking in aircraft  
Authority of commander of aircraft  
Stowaways  
Exhibitions of flying  
Application and interpretation of Part VI  
Fatigue of crew- operator's responsibilities  
Fatigue of crew - responsibilities of crew  
Flight times: responsibilities of flight crew  
Documents to be carried  
Production of documents and records  
Offences in relation to documents and records  
Rules of the air and air traffic control  
Power to prohibit or restrict flying  
Balloons, kites, airships, gliders and parascending parachutes  
Aerodromes: Public transport of passengers and instruction in  
flying  
Aviation Fuel at Aerodromes  
Mandatory reporting  
Penalties

Interpretation  
Public Transport and aerial work  
Documents to be carried by Aircraft Registered in Malaysia

1.2 **Annex 8—Airworthiness of Aircraft**

1.2.1 Annex 8

1.2.1.1 Applicability

1.2.2 MCAR 1996

1.2.2.1 The MCAR 1996 (as amended):

Certificate of airworthiness to be in force  
Issue, renewal, etc., of certificates of airworthiness  
Certificate of maintenance review  
Technical log  
Inspection, overhaul, repair, replacement and modification  
Equipment of aircraft  
Radio equipment of aircraft  
Minimum equipment requirements  
Aircraft, engine and propeller log books  
Aircraft weight schedule  
Aircraft equipment  
Radio and radio navigation equipment to be carried in aircraft.

1.3 **Annex 7 - Aircraft Nationality and Registration Marks**

1.3.1 Annex 7

1.3.1.1 Applicability

1.3.2 MCAR 1996

1.3.2.1 The MCAR 1996 (as amended):

Aircraft to be registered  
Registration of aircraft in Malaysia  
Table of General Classification of Aircraft  
Categories of Aircraft

1.4 **Annex 1- Personnel Licensing**

1.4.1 Annex I

1.4.1.1 Applicability

1.4.2 MCAR 1996

1.4.2.1 The MCAR 1996 (as amended)

Composition of crew of aircraft  
Members of flight crew - requirements of licences.  
Grant, renewal and effect of flight crew licences  
Validation of licences  
Personal flying log book  
Instruction in flying  
Flight Crew of Aircraft: Licences and Ratings

- 1.5 **Rules of the Air (based on Annex 2)**
  - 1.5.1 Annex 2
    - 1.5.1.1 Essential definitions
    - 1.5.1.2 Applicability of rules of the air
    - 1.5.1.3 General rules (except for water operations)
    - 1.5.1.4 Visual flight rules
    - 1.5.1.5 Instrument flight rules
    - 1.5.1.6 Signals
    - 1.5.1.7 Interception of civil aircraft
    - 1.5.1.8 Table of cruising levels
  - 1.5.2 MCAR 1996
    - 1.5.2.1 The Rules of the Air and Air Traffic Control Regulations (as amended)
      - Part A Interpretation
      - Part B General
      - Part C Lights and other signals to be shown by aircraft
      - Part D General flight rules
      - Part E Visual flight rules
      - Part F Instrument flight rules
      - Part G Aerodrome traffic rules
      - Part H Aerodrome signals and markings visual and Aural signals
- 1.6 **Procedures for Air Navigation - Aircraft Operations**
  - 1.6.1 Foreword
    - 1.6.1.1 Introduction
  - 1.6.2 Definitions and abbreviations
  - 1.6.3 Departure procedures
    - 1.6.3.1 General criteria
  - 1.6.4 Approach procedures
    - 1.6.4.1 General criteria (except tables)
  - 1.6.5 Holding procedures
    - 1.6.5.1 General criteria
  - 1.6.6 Altimeter setting procedures
    - 1.6.6.1 Basic requirements (except tables), procedures applicable to operators and pilots (except tables)
  - 1.6.7 Secondary Surveillance Radar Transponder operating procedures
    - 1.6.7.1 Operation of transponders
    - 1.6.7.2 Phraseology
- 1.7 **Air Traffic Services (based on Annex 11 and Doc 4444)**
  - 1.7.1 Air Traffic Services - Annex 11
    - 1.7.1.1 Definitions
      - 1.7.1.1.2 General: objectives of ATS, division of ATS, designation of the portions of the airspace and controlled aerodromes where ATS will be provided, establishment and designation of the units providing ATS, specifications (for flight information regions, control areas and control zones), minimum flight altitudes, priority in the event of an aircraft in emergency, in-flight contingencies time in ATS
      - 1.7.1.1.3 Air Traffic Control Service

- Application  
Provision of air traffic control service, operation of air traffic control service, separation minima, contents of clearances, co-ordination of clearances, control of persons and vehicles at aerodromes.
- 1.7.1.4 Flight Information Service  
for VFR flights: application scope of flight information service  
for IFR flights: application, scope of flight information service operational flight information service broadcasts
- 1.7.1.5 Alerting Service  
Application  
Notification of rescue co-ordination centres (only ICERFA, ALERFA, DESTRESFA), information to aircraft operating in the vicinity of an aircraft in a state of emergency.
- 1.7.1.6 Principles governing the identification of ATS routes other than standard departure and arrival routes
- 1.7.2 Rules of the Air and Air Traffic Services DOC 4444MC/501/11
- 1.7.2.1 Definitions
- 1.7.2.2 General Provisions  
general air traffic operating practices, submission of a flight plan, change from IFR to VFR flight, clearances and information, control of air traffic flow, altimeter setting procedures, indication of heavy wake turbulence category, position reporting, AIREP form of air report: recording and reporting instructions (first 7 items)
- 1.7.2.3 Area Control Service  
vertical separation, vertical separation application, vertical separation minimum, minimum cruising level, assignment of cruising level, vertical separation during ascent or descent, horizontal separation: lateral separation application, geographical separation, track separation between aircraft using the same VOR, longitudinal separation application (except between supersonic aircraft), reduction of separation minimum, air traffic control clearances: contents, description of air traffic control clearances, clearances to fly maintaining own separation while in VMC, essential traffic information, clearance of a requested change in flight plan, emergency procedures (only general, priority, emergency descent, action by pilot-in-command), air-ground communication failure (only concerning the actions by pilot-in-command), interception of civil aircraft
- 1.7.2.4 Approach Control Service  
departing aircraft: general procedures for departing aircraft, clearances to climb maintaining own separation in VMC, information for departing aircraft/arriving aircraft: general procedures for arriving aircraft, clearances to descend maintaining own separation in VMC visual approach, instrument approach, holding, approach sequence, expected approach time, information for arriving aircraft
- 1.7.2.5 Aerodrome Control Service

- functions of aerodrome control towers: general, alerting service provided by aerodrome control towers; suspension of VFR operations by aerodrome control towers
- traffic and taxi circuits: selection of runway-in-use
- information to aircraft by aerodrome control towers
- information related to the operation of the aircraft
- information on aerodrome conditions
- control of aerodrome traffic: order of priority for arriving and departing aircraft, control of departing and arriving aircraft, authorisation of special VFR flights
- 1.7.2.6 Flight Information Service and Alerting Service
  - air traffic advisory service
  - alerting service
- 1.7.2.7 Use of Radar in Air Traffic Services
  - general provisions: limitations in the use of radar, identification procedures (only establishment of radar identity), position information, radar vectoring, use of radar in air traffic service
- 1.7.3 MCAR 1996
  - 1.7.3.1 The Aeronautical Information Publication
    - communications: the aeronautical mobile service, the aeronautical radio navigation service
    - meteorology: types of service provided, observing systems and operating procedures
    - application of METAR, TAF, TREND and AIREP codes, Runway Visual Range, Aircraft Meteorological Observations and Reports
    - air traffic rules and services: differences from ICAO
    - definitions, types of airspace and air traffic service units, carriage of radio equipment and communication failure procedures, 'Airmiss reporting procedures, diversion, airspace restrictions.
- 1.8 **Aeronautical Information Service (based on Annex 15)**
  - 1.8.1 Annex 15
    - 1.8.1.1 Definitions
      - Applicability
  - 1.8.2 MCAR 1996
    - 1.8.2.1 The Aeronautical Information Publication NOTAMS and Aeronautical Information Circulars.
- 1.9 **Aerodromes (based on Annex 14)**
  - 1.9.1 Annex 14
    - 1.9.1.1 Aerodrome data
      - condition of the movement area and related facilities
    - 1.9.1.2 Visual aids for navigation
      - indicators and signalling devices
      - markings
      - lights
      - signs
      - markers

- 1.9.1.3 Visual aids for denoting obstacles
  - marking of objects
  - lighting of objects
- 1.9.1.4 Visual aids for denoting restricted use of areas
  - Emergency and other services
  - fire and rescue service
  - apron management service
  - ground servicing of aircraft
- 1.9.2 MCAR 1996
  - 1.9.2.1 The Rules of the Air and Air Traffic Control Regulations (as amended)
    - aerodrome signals and markings, visual and aural signals (excluding dimensions), marshalling signals
  - 1.9.2.2 The Aeronautical Information Publication
    - definitions
    - conditions of availability
    - customs and health airports
    - paved runway markings
    - use of military aerodromes
    - aeronautical ground lights
- 1.10 **Facilitation (based on Annex 9)**
  - 1.10.1 Entry and Departure of Aircraft
    - 1.10.1.1 Description, purpose and use of aircraft documents: general declaration
  - 1.10.2 Entry and Departure of Persons and baggage
    - 1.10.2.1 Entry requirements and procedures: crew and other operators' personnel
  - 1.10.3 MCAR 1996
    - 1.10.3.1 The Aeronautical Information Publication
      - arrival, departure and transit of civil aircraft on international flights
      - arrival, departure and transit of passengers and crew
      - importation and exportation of cargo, and cargo in transit
- 1.11 **Search and Rescue (based on Annex 12)**
  - 1.11.1 Annex 12
    - 1.11.1.1 Organisation
      - establishment and provision of SAR service
      - establishment of SAR regions
      - establishment and designation of SAR services units
    - 1.11.1.2 Co-operation
      - co-operation between States
      - co-operation with other services
    - 1.11.1.3 Operating Procedures
      - procedures for pilots-in-command at the scene of an accident
      - procedures for pilots-in-command intercepting a distress transmission
      - search and rescue signals
  - 1.11.2 MCAR 1996
    - 1.11.2.1 The Rules of the Air and Air Traffic Control Regulations(as amended)

- 1.11.2.2 distress, urgency and safety signals
- 1.11.2.2 The Aeronautical Information Publication
- responsible authority
- communications, distress frequencies
- aircraft not equipped with radio
- procedure for a pilot-in-command requiring SAR escort facilities
- procedure for a pilot-in-command observing an accident or intercepting a distress call (or message) and for guiding surface craft to the scene of a ditching flight in areas where search and rescue operations are in progress.
- action by survivors, ground/air visual signal code for use by survivors
  
- 1.12 **Security (based on Annex 17 and ECAC Doc 30)**
- 1.12.1 Annex 17
- 1.12.1.1 General
- aims and objectives
- 1.12.1.2 Organisation
- co-operation and co-ordination
- 1.12.1.3 Operators
- operators' security programme
- 1.12.2 MCAR 1996
- 1.12.2.1 Prevention of Terrorism (Temporary Provisions) Act 1989 (as amended)
  
- 1.13 **Aircraft Accident Investigation**
- 1.13.1 Annex 13
- 1.13.1.1 Applicability
- 1.13.2 MCAR 1996
- 1.13.2.1 The Investigation of Accidents regulation 124
- Notification of Accidents
- 1.13.2.2 The Investigation of Air Accidents involving Civil and Military Aircraft or Installation Regulations 136
- Regulation 137: Duty to furnish information relating to accidents
  
- 1.14 **Transport of Dangerous Goods by Air (based on Annex 18)**
- 1.14.1 Annex 18
- 1.14.2 MCAR 1996
- The MCAR 1996 (Dangerous Goods) Regulations 67
- Definitions and general principals
  
- 1.15 **Additional Matters**
- 1.15.1 Any information of an operational nature which may, from time to time, be added to the AIP, NOTAMS and Aeronautical Information Circulars.