



GOVERNMENT OF INDIA

**OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**  
TECHNICAL CENTER, OPPOSITE SAFDARJUNG AIRPORT, NEW DELHI

**CIVIL AVIATION REQUIREMENT**  
**SECTION 7 - FLIGHT CREW STANDARDS**  
**TRAINING AND LICENSING**  
**SERIES 'B' PART VI**  
**Issue II dated 1.9.99**

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**Subject : Syllabus for Examination for Issue of Airline Transport Pilot's Licence for Aeroplanes.**

**1. INTRODUCTION**

Sections L and, M of Schedule II of the Aircraft Rules, 1937, stipulate, amongst other requirements, that the applicant shall pass a written and oral examination as per syllabus prescribed by the DGCA for the issuance of Airline Transport Pilot's licence (ALTP) for Aeroplanes. Accordingly, this part of the CAR lays down the main topics of syllabus for the written and oral examination for issue of these licences in accordance with the provisions of Schedule II. These topics of syllabus are in conformity with the knowledge requirements prescribed in ICAO Annex 1.

This CAR is issued under the provisions of Schedule II and Rule 133A of the Aircraft Rules, 1937.

**2. SYLLABUS**

**2.1 Airline Transport Pilot's Licence (Aeroplanes)**

**2.1.1 Air Regulations**

- a) Aircraft Act, 1934 – Chapter I, Section Short title and extent, definitions, power to detain aircraft, penalty for act in contravention of rules made under the act, penalty for flying so as to cause danger;
- b) Aircraft Rules, 1937;

- c) rules of the air;
- d) appropriate air traffic services practices and procedures;

#### 2.1.2 Aircraft General Knowledge

- a) general characteristics and limitations of electrical, hydraulic, pressurisation and other aeroplane systems; flight control systems, including auto-pilot and stability augmentation;
- b) 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;
- c) operating procedures and limitations of appropriate aeroplanes; effects of atmospheric conditions on aeroplane performance;
- d) use and serviceability checks of equipment and systems of appropriate aeroplanes;
- e) 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;
- f) maintenance procedures for airframes, systems and power plants of appropriate aeroplanes;

#### 2.1.3 Flight Performance and Planning

- a) effects of loading and mass distribution on aeroplane handling, flight characteristics and performance; mass and balance calculations;
- b) use and practical application of take-off, landing and other performance data including procedures for cruise control;
- c) pre-flight and en-route operational flight planning; preparation and filing of air traffic services flight plans; appropriate air traffic service procedures, position reporting procedures; altimeter setting procedures; operations in areas of high density traffic;

#### 2.1.4 Human Performance and Limitations

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

#### 2.1.5 Meteorology

- a) 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;
- b) 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 phenomenon which affect take-off, en-route and landing conditions;
- c) causes, recognition and effects of engine and airframe icing; frontal zone penetration procedures; hazardous weather avoidance;
- d) practical high altitude meteorology, including interpretation and

use of weather reports, charts and forecasts; jet streams;

#### 2.1.6 Navigation

- a) air navigation, including the use of aeronautical charts, radio navigation aids; and area navigation systems; specific navigation requirements for long-range flights.
- b) use, limitations and serviceability of avionics and instruments necessary for the control and navigation of aeroplanes;
- c) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;.
- d) principles and characteristics of self contained and external -referenced navigation systems; operation of airborne equipment;

#### 2.1.7 Operational Procedures

- a) 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;
- b) precautionary and emergency procedures; safety practices associated with flight under IFR;
- c) operational procedures for carriage of freight and dangerous goods;
- d) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aeroplanes;

#### 2.1.8 Principles of Flight

Principles of flight relating to aeroplanes; subsonic aerodynamics; compressibility effects, manoeuvre boundary limits, wing design characteristics, effects of supplementary lift and drag devices; relationship between lift, drag and thrust at various air speeds and in different flight configurations;

#### 2.1.9 Radio Telephony

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

#### 2.2 DELETED

3. CAR Section 7 Series 'B' Part V is cancelled herewith.



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